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Area Wage Survey

Minneapolis–St. Paul, Minnesota–Wisconsin, Metropolitan Area, February 1988

U.S. Department of Labor
Bureau of Labor Statistics

Bulletin 3045-6

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Preface

This bulletin, providing results of a February 1988 survey of occupational earnings in the Minneapolis-St. Paul, MN-WI, Metropolitan Statistical Area, The survey was made as part of the Bureau of Labor Statistics' area wage survey program. It was conducted by the Bureau's regional office in Chicago, IL, under the general direction of [illegible], Assistant Regional Commissioner for Operations. The Bureau wishes to express appreciation for the cooperation of the many firms that provided the data on which this publication is based.

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Note:

Regional offices also have available this publication's companion, *Occupational Earnings and Wage Trends in Metropolitan Areas, 33 Private Industry Surveys*, and *Occupational Earnings in All Metropolitan Areas* (combined area publication). Publication of *Occupational Earnings in Metropolitan Areas* [illegible]

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Area Wage Survey

Minneapolis–St. Paul, Minnesota–Wisconsin, Metropolitan Area, February 1988

U.S. Department of Labor
Ann McLaughlin, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
May 1988

Bulletin 3045-6

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Introduction

The Bureau of Labor Statistics is restructuring its area wage survey program to reflect changes in the number and geographic boundaries of the Nation's metropolitan statistical areas. In place of annual studies of 70 areas, the new program, when fully implemented in 1990, will cover 32 areas on an annual basis and two groups of 29 areas in alternate years.

This is 1 of the 32 areas being surveyed each year. While occupational earnings are presented annually (A-series tables), information on establishment practices and employee benefits (B-series tables) is presented every third year, when Bureau field representatives obtain such data during personal visits to respondents. This report has no B-series tables.

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

Earnings

Tables A-1 through A-6 provide estimates of straight-time weekly or hourly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. Where possible, occupations with related duties (e.g., accounting clerks and payroll clerks) are clustered to facilitate comparison. The occupations are defined in appendix B. For 31 large survey areas, tables A-12 through A-17 provide similar data for establishments employing 500 workers or more.

Table A-7 provides indexes and percent changes in average hourly earnings for office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance trades workers, and unskilled plant workers. Where possible, data are presented for all industries and for manufacturing and nonmanufacturing separately. Data are not presented for skilled maintenance workers in nonmanufacturing because the number of workers employed in this occupational group in nonmanufacturing is too small to warrant separate presentation. This table provides a measure of wage trends after elimination of changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. For further details, see appendix A.

Tables A-8 through A-11 provide measures of pay relationships in establishments. These measures may differ considerably from the pay relationships of overall area averages published in tables A-1 through A-6. See appendix A for details.

Appendixes

Appendix A describes the methods and concepts used in the area wage survey program and provides information on the scope of the survey.

Appendix B provides job descriptions used by Bureau field representatives to classify workers by occupation.

Table A-1. Weekly earnings of office workers in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	180 and under 185	185 – 210	210 – 235	235 – 260	260 – 285	285 – 310	310 – 335	335 – 360	360 – 385	385 – 410	410 – 435	435 – 460	460 – 485	485 – 510	510 – 535	535 – 560	560 – 585	585 – 610	610 – 635	635 – 660	660 and over
Secretarial and keyboarding occupations																										
Secretaries	6,114	39.5	381.50	385.50	330.00– 423.00	–	–	–	11	228	532	951	1043	917	593	532	463	285	258	128	88	29	18	19	15	24
Manufacturing	3,261	40.0	382.00	389.50	330.00– 423.00	–	–	–	5	111	320	456	514	499	372	278	206	175	155	96	48	17	4	4	3	2
Nonmanufacturing	2,853	39.0	381.00	384.00	330.00– 422.50	–	–	–	6	117	212	495	529	418	221	256	257	110	103	32	22	12	14	15	12	22
Secretaries I	521	39.5	308.50	308.50	290.00– 323.00	–	–	–	7	98	171	175	60	9	1	2	–	–	–	–	–	–	–	–	–	–
Secretaries II	1,649	38.0	344.00	336.50	315.00– 364.50	–	–	–	4	87	223	450	413	228	82	76	80	1	1	–	4	–	–	–	–	–
Manufacturing	614	39.5	345.50	343.00	314.00– 372.50	–	–	–	–	32	103	128	141	109	48	33	18	1	1	–	–	–	–	–	–	–
Nonmanufacturing	1,035	37.5	343.00	336.00	315.00– 360.50	–	–	–	4	55	120	322	272	119	34	43	62	–	–	–	4	–	–	–	–	–
Secretaries III	1,863	39.5	371.00	364.00	341.50– 394.50	–	–	–	–	15	108	262	438	467	226	159	98	68	13	5	2	–	–	–	–	2
Manufacturing	843	40.0	362.50	360.00	336.50– 381.50	–	–	–	–	11	48	128	239	233	104	32	19	20	7	–	–	–	–	–	–	2
Nonmanufacturing	1,020	39.5	378.50	372.50	345.50– 413.00	–	–	–	–	4	60	134	199	234	122	127	79	48	6	5	2	–	–	–	–	–
Secretaries IV	1,377	40.0	413.50	405.00	370.00– 445.00	–	–	–	–	30	30	84	128	209	261	210	195	67	89	29	21	7	11	15	5	6
Manufacturing	789	40.0	407.50	403.50	375.00– 435.00	–	–	–	–	–	–	27	76	146	201	139	111	39	20	13	11	3	–	2	1	–
Nonmanufacturing	588	39.5	422.00	420.00	358.00– 473.00	–	–	–	–	30	30	37	52	63	60	71	84	28	69	16	10	4	11	13	4	6
Transportation and utilities	41	40.0	507.50	486.00	435.50– 546.00	–	–	–	–	–	–	–	–	–	–	9	6	5	7	2	2	1	2	1	2	4
Secretaries V	702	40.0	488.00	484.00	451.00– 510.50	–	–	–	–	–	–	–	4	4	23	84	89	149	155	94	41	22	7	4	10	16
Nonmanufacturing	170	40.0	507.50	484.50	451.00– 535.50	–	–	–	–	–	–	–	2	2	5	14	31	34	28	11	6	8	3	2	8	16
Stenographers	85	39.5	391.50	320.00	320.00– 452.50	–	–	–	1	1	8	34	2	1	–	–	20	–	7	8	3	–	–	–	–	–
Nonmanufacturing:																										
Transportation and utilities	38	40.0	485.50	452.50	452.50– 524.00	–	–	–	–	–	–	–	–	–	–	–	20	–	7	8	3	–	–	–	–	–
Typists	589	39.0	262.00	260.00	236.50– 275.00	1	71	72	147	212	20	25	13	6	–	21	–	–	–	1	–	–	–	–	–	–
Nonmanufacturing	367	38.0	262.00	251.00	211.00– 279.00	1	71	54	84	91	10	22	12	–	–	21	–	–	–	1	–	–	–	–	–	–
Typists I	318	38.5	243.00	242.50	211.00– 259.50	1	71	54	115	48	11	12	2	4	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	277	38.0	240.00	239.00	207.50– 257.00	1	71	54	84	45	8	12	2	–	–	–	–	–	–	–	–	–	–	–	–	–
Typists II	271	39.5	284.50	268.00	260.00– 279.00	–	–	18	32	164	9	13	11	2	–	21	–	–	–	1	–	–	–	–	–	–
Nonmanufacturing	90	38.5	329.50	281.00	275.00– 356.50	–	–	–	–	48	2	10	10	–	–	21	–	–	–	1	–	–	–	–	–	–
Word processors	1,179	39.5	322.50	319.50	278.50– 349.50	–	–	86	80	183	171	207	197	90	47	48	31	6	33	–	–	–	–	–	–	–
Manufacturing	336	39.5	324.50	307.50	283.00– 360.50	–	–	–	33	76	63	29	46	34	17	19	14	6	1	–	–	–	–	–	–	–
Nonmanufacturing	841	39.5	322.00	319.50	278.50– 345.50	–	–	86	47	107	108	178	151	56	30	29	17	–	32	–	–	–	–	–	–	–
Word processors I	461	39.5	282.50	282.50	254.00– 320.00	–	–	86	80	126	28	47	67	18	5	3	1	–	–	–	–	–	–	–	–	–
Manufacturing	153	39.5	288.00	289.00	260.50– 300.00	–	–	–	33	74	14	7	8	15	1	1	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	308	39.5	280.50	280.00	233.50– 321.50	–	–	86	47	52	14	40	59	3	4	2	1	–	–	–	–	–	–	–	–	–
Word processors II	718	39.5	348.50	334.50	307.00– 373.00	–	–	–	–	57	143	160	130	72	42	45	30	6	33	–	–	–	–	–	–	–
Manufacturing	185	39.5	358.50	343.50	308.00– 398.00	–	–	–	–	2	49	22	38	19	16	18	14	6	1	–	–	–	–	–	–	–
Nonmanufacturing	533	39.5	345.50	332.00	307.00– 381.00	–	–	–	–	55	94	138	92	53	26	27	16	–	32	–	–	–	–	–	–	–
Key entry operators	2,988	39.5	270.00	264.50	230.50– 304.00	238	194	508	480	480	491	237	188	58	34	37	1	–	31	3	–	8	–	–	–	–
Manufacturing	543	39.5	300.50	304.00	287.50– 311.00	–	9	38	17	65	253	98	31	16	6	14	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	2,423	39.0	263.50	252.00	230.50– 292.00	238	185	470	443	415	238	141	157	42	28	23	1	–	31	3	–	8	–	–	–	–
Transportation and utilities	110	40.0	417.00	426.00	334.50– 510.00	–	–	–	6	4	12	7	8	5	3	22	1	–	31	3	–	8	–	–	–	–
Key entry operators I	1,971	39.0	248.00	248.00	222.50– 282.00	238	194	425	332	297	358	97	20	3	3	1	–	–	3	–	–	–	–	–	–	–
Manufacturing	401	40.0	288.50	296.50	275.00– 305.00	–	9	38	17	59	218	55	7	1	1	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	1,570	39.0	237.50	232.50	204.00– 264.00	238	185	389	315	238	142	42	13	2	2	1	–	–	3	–	–	–	–	–	–	–
Transportation and utilities	30	39.5	308.50	288.50	264.00– 324.50	–	–	–	6	4	12	3	2	–	–	–	–	–	3	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in Minneapolis-St. Paul, MN-WI, February 1988 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[2]	Median[2]	Middle range[2]	160 and under 185	185 – 210	210 – 235	235 – 260	260 – 285	285 – 310	310 – 335	335 – 360	360 – 385	385 – 410	410 – 435	435 – 460	460 – 485	485 – 510	510 – 535	535 – 560	560 – 585	585 – 610	610 – 635	635 – 660	660 and over
Key entry operators II	995	39.5	314.00	304.50	276.00– 348.50	–	–	61	128	183	133	140	168	55	31	36	1	–	28	3	–	8	–	–	–	–
Manufacturing	142	39.5	334.50	330.00	300.50– 359.00	–	–	–	–	6	37	41	24	15	5	14	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	853	39.5	310.50	303.00	286.50– 348.50	–	–	61	128	177	96	99	144	40	26	22	1	–	28	3	–	8	–	–	–	–
Transportation and utilities	80	40.0	457.50	435.50	424.50– 510.00	–	–	–	–	–	–	4	6	5	3	22	1	–	28	3	–	8	–	–	–	–
Other clerical occupations																										
Accounting clerks	5,721	39.5	320.50	307.50	276.50– 353.00	22	38	192	542	1038	1141	657	812	450	288	251	154	27	18	18	62	12	1	–	–	–
Manufacturing	2,368	39.5	331.50	321.50	290.50– 368.00	–	–	4	130	348	530	280	409	279	179	125	55	15	7	6	–	–	1	–	–	–
Nonmanufacturing	3,353	39.5	312.50	296.00	267.00– 345.00	22	36	188	412	690	611	377	403	171	109	126	99	12	11	12	62	12	–	–	–	–
Transportation and utilities	656	40.0	366.50	372.50	321.00– 452.00	–	1	16	27	19	60	87	109	32	25	99	79	8	9	11	62	12	–	–	–	–
Accounting clerks I	696	40.0	247.00	249.50	231.00– 265.00	22	29	156	307	119	50	13	1	1	–	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	219	40.0	272.50	273.00	254.00– 286.00	–	–	–	88	76	45	8	1	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	479	40.0	235.00	235.00	219.00– 249.50	22	29	156	219	43	5	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accounting clerks II	2,501	39.5	297.50	290.50	270.00– 315.00	–	3	33	234	759	738	346	241	83	7	44	11	1	1	–	–	–	–	–	–	–
Manufacturing	823	40.0	302.50	294.00	278.50– 316.00	–	–	4	42	207	284	149	67	47	6	17	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	1,678	39.5	295.00	288.00	267.50– 315.00	–	3	29	192	552	454	197	174	36	1	27	11	1	1	–	–	–	–	–	–	–
Accounting clerks III	1,769	39.5	343.00	340.00	305.00– 367.00	–	2	3	1	156	335	246	495	240	149	100	24	6	6	6	–	–	–	–	–	–
Manufacturing	918	39.5	342.50	340.00	305.00– 365.00	–	–	–	–	65	200	109	289	139	82	26	19	4	1	4	–	–	–	–	–	–
Nonmanufacturing	851	39.0	343.50	338.00	305.50– 370.00	–	2	3	1	91	135	137	206	101	67	74	5	2	5	2	–	–	–	–	–	–
Accounting clerks IV	753	39.5	412.00	402.50	367.00– 452.00	–	2	–	–	4	18	52	75	126	132	107	119	20	11	12	62	12	1	–	–	–
Manufacturing	408	39.5	396.50	394.50	370.50– 418.00	–	–	–	–	–	1	14	52	92	111	62	36	11	6	2	–	–	1	–	–	–
Nonmanufacturing	345	40.0	430.50	448.50	362.50– 495.50	–	2	–	–	4	17	38	23	34	21	25	83	9	5	10	62	12	–	–	–	–
Transportation and utilities	165	40.0	500.50	511.00	452.00– 547.00	–	–	–	–	–	–	–	–	1	–	5	67	5	4	9	62	12	–	–	–	–
Payroll clerks	644	40.0	338.50	330.00	285.50– 362.00	–	–	–	104	33	103	100	130	59	18	51	5	5	2	10	18	6	–	–	–	–
Manufacturing	275	40.0	348.00	348.00	299.00– 372.00	–	–	–	28	5	50	33	61	35	5	43	4	5	1	5	–	–	–	–	–	–
Nonmanufacturing	369	39.5	333.00	327.00	283.50– 351.50	–	–	–	76	28	53	67	69	24	13	8	1	–	1	5	18	6	–	–	–	–
Transportation and utilities	74	40.0	414.50	388.00	330.00– 547.00	–	–	–	2	4	9	16	4	6	–	5	–	–	1	3	18	6	–	–	–	–
File clerks	891	39.0	228.00	218.00	202.00– 239.50	15	343	249	155	49	69	2	2	3	–	–	–	–	1	3	–	–	–	–	–	–
Nonmanufacturing	595	39.0	235.00	226.50	207.50– 247.00	15	154	180	130	47	63	1	1	–	–	–	–	–	1	3	–	–	–	–	–	–
File clerks I	751	39.0	218.50	215.50	200.00– 233.00	15	342	229	121	28	16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	470	38.5	223.50	221.00	205.00– 239.00	15	153	162	100	28	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
File clerks II	128	39.0	278.50	280.00	247.00– 296.00	–	1	20	31	18	52	–	–	3	–	–	–	–	–	3	–	–	–	–	–	–
Nonmanufacturing	115	39.0	276.00	280.00	247.00– 296.00	–	1	18	27	16	50	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–
Messengers	203	39.5	225.50	210.00	194.00– 236.50	28	74	48	21	16	8	–	–	3	–	–	3	–	1	–	1	–	–	–	–	–
Manufacturing	55	38.5	241.50	233.00	219.50– 248.00	–	3	26	16	5	2	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	148	39.5	219.50	204.50	188.00– 223.00	28	71	22	5	11	6	–	–	–	–	–	3	–	1	–	1	–	–	–	–	–
Order clerks	839	40.0	411.50	435.50	328.00– 494.50	1	1	2	41	96	32	72	44	16	49	64	17	135	180	78	8	1	2	–	–	–
Manufacturing	416	40.0	343.00	334.00	283.00– 385.50	–	–	1	39	87	30	70	44	16	45	28	17	15	5	8	8	1	2	–	–	–
Nonmanufacturing	423	40.0	479.00	488.50	484.00– 498.50	1	1	1	2	9	2	2	–	–	4	36	–	120	175	70	–	–	–	–	–	–
Order clerks I	201	40.0	263.50	263.00	262.50– 265.50	1	1	2	41	95	31	13	7	2	2	2	–	1	–	2	1	–	–	–	–	–
Manufacturing	183	40.0	265.00	263.00	262.50– 265.50	–	–	1	39	88	29	11	7	2	2	2	–	1	–	2	1	–	–	–	–	–
Order clerks II	638	40.0	452.00	484.00	410.00– 497.00	–	–	–	–	1	1	59	37	14	47	62	17	134	180	76	7	1	2	–	–	–
Manufacturing	233	40.0	388.50	385.50	334.00– 426.50	–	–	–	–	1	1	59	37	14	43	26	17	14	5	6	7	1	2	–	–	–

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in Minneapolis-St. Paul, MN-WI, February 1988 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[2]	Median[2]	Middle range[2]	160 and under 185	185 – 210	210 – 235	235 – 260	260 – 285	285 – 310	310 – 335	335 – 360	360 – 385	385 – 410	410 – 435	435 – 460	460 – 485	485 – 510	510 – 535	535 – 560	560 – 585	585 – 610	610 – 635	635 – 660	660 and over
Receptionists	407	40.0	281.00	285.50	253.50– 308.00	2	9	27	67	128	97	18	47	7	5	–	–	–	–	–	–	–	–	–	–
Manufacturing	134	40.0	292.00	305.00	250.00– 315.00	–	9	–	31	16	42	10	20	4	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	273	40.0	275.50	263.50	260.00– 287.50	2	–	27	36	112	55	8	27	3	3	–	–	–	–	–	–	–	–	–	–
Switchboard operators	316	40.0	291.00	288.50	261.50– 300.00	–	28	22	21	149	21	14	21	4	10	3	2	1	18	–	2	–	–	–	–
Manufacturing	69	39.5	294.50	288.50	288.50– 319.00	–	–	1	3	39	6	5	13	–	–	1	–	1	–	–	–	–	–	–	–
Nonmanufacturing	247	40.0	290.50	278.50	254.00– 286.00	–	28	21	18	110	15	9	8	4	10	2	2	–	18	–	2	–	–	–	–
Transportation and utilities	27	40.0	478.00	506.00	436.00– 506.00	–	–	–	–	–	–	1	2	–	–	2	2	–	18	–	2	–	–	–	–
Switchboard operator-receptionists	1,016	39.5	278.50	278.50	250.00– 304.50	10	65	76	179	259	191	125	70	31	5	2	–	3	–	–	–	–	–	–	–
Manufacturing	345	40.0	279.00	280.00	248.00– 301.00	–	27	29	42	127	47	40	2	27	3	–	–	1	–	–	–	–	–	–	–
Nonmanufacturing	671	39.5	278.50	278.00	251.00– 307.00	10	38	47	137	132	144	85	68	4	2	2	–	2	–	–	–	–	–	–	–
Transportation and utilities	52	40.0	250.00	239.00	224.00– 276.00	–	–	18	18	13	3	2	–	–	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	225 and under 250	250 – 275	275 – 300	300 – 325	325 – 350	350 – 375	375 – 400	400 – 425	425 – 450	450 – 475	475 – 500	500 – 550	550 – 600	600 – 650	650 – 700	700 – 750	750 – 800	800 – 850	850 – 900	900 – 950	950 and over
Computer systems analysts	2,982	39.5	679.00	675.00	587.50– 780.00	–	–	–	–	–	–	1	12	41	28	79	349	320	489	454	378	324	223	133	100	51
Manufacturing	966	40.0	724.50	721.50	618.50– 813.50	–	–	–	–	–	–	1	10	–	–	2	59	90	155	123	109	141	102	69	70	35
Nonmanufacturing	2,016	39.5	657.00	652.00	572.50– 733.50	–	–	–	–	–	–	–	2	41	28	77	290	230	334	331	269	183	121	64	30	16
Transportation and utilities	126	40.0	720.50	712.00	649.50– 835.50	–	–	–	–	–	–	–	–	–	1	17	3	5	6	25	11	19	12	14	6	7
Computer systems analysts I	844	39.5	566.00	555.50	511.50– 610.50	–	–	–	–	–	–	–	12	41	27	77	252	179	133	92	29	2	–	–	–	–
Manufacturing	203	40.0	571.00	580.00	548.00– 600.50	–	–	–	–	–	–	–	10	–	–	2	49	80	52	9	1	–	–	–	–	–
Nonmanufacturing	641	39.0	564.50	543.50	509.50– 622.00	–	–	–	–	–	–	–	2	41	27	75	203	99	81	83	28	2	–	–	–	–
Transportation and utilities	45	40.0	617.00	687.50	480.00– 691.00	–	–	–	–	–	–	–	–	–	–	15	–	–	4	16	8	2	–	–	–	–
Computer systems analysts II	1,132	39.5	658.50	651.00	607.50– 710.50	–	–	–	–	–	–	1	–	–	1	2	97	135	328	259	147	114	37	6	4	1
Manufacturing	333	40.0	686.00	677.50	640.50– 744.00	–	–	–	–	–	–	1	–	–	–	–	10	8	99	82	57	62	10	4	–	–
Nonmanufacturing	799	39.0	647.00	640.50	588.50– 697.00	–	–	–	–	–	–	–	–	–	1	2	87	127	229	177	90	52	27	2	4	1
Transportation and utilities	45	40.0	739.50	773.50	664.50– 822.00	–	–	–	–	–	–	–	–	–	1	2	3	4	1	2	3	15	7	2	4	1
Computer systems analysts III	831	39.5	776.50	769.50	727.00– 823.50	–	–	–	–	–	–	–	–	–	–	–	–	6	28	97	199	202	180	70	61	8
Manufacturing	307	39.5	801.00	798.50	744.50– 851.50	–	–	–	–	–	–	–	–	–	–	–	–	2	4	27	48	75	71	34	39	7
Nonmanufacturing	524	39.5	762.00	755.50	719.00– 807.50	–	–	–	–	–	–	–	–	–	–	–	–	4	24	70	151	127	89	36	22	1
Computer systems analysts IV	175	40.0	892.00	881.50	851.00– 948.50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8	31	6	26	57	35	* 42
Manufacturing	123	40.0	889.00	896.50	846.00– 944.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	3	4	21	31	31	28
Nonmanufacturing	52	40.0	899.00	870.00	870.00– 956.50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	5	26	4	14
Computer programmers	2,867	39.0	538.50	513.50	456.00– 602.00	–	–	–	11	100	75	77	182	254	154	464	417	420	304	117	96	76	79	38	16	7
Manufacturing	965	40.0	612.00	602.50	499.00– 712.00	–	–	–	–	–	58	4	25	33	18	110	81	137	162	85	66	64	63	36	14	7
Nonmanufacturing	1,902	39.0	501.50	499.00	442.00– 553.00	–	–	–	11	100	17	73	137	221	136	354	336	283	142	32	28	12	16	2	2	–
Computer programmers I	529	39.5	411.50	403.00	365.00– 442.00	–	–	–	11	99	66	50	115	88	24	32	43	19	2	–	–	–	–	–	–	–
Manufacturing	134	40.0	414.00	407.50	374.00– 432.00	–	–	–	–	–	58	4	22	19	9	18	2	3	1	–	–	–	–	–	–	–
Nonmanufacturing	395	39.5	410.50	403.00	341.50– 442.00	–	–	–	11	99	8	46	93	69	15	16	41	16	1	–	–	–	–	–	–	–
Computer programmers II	1,149	38.5	502.50	492.00	470.50– 542.50	–	–	–	–	1	9	27	45	155	95	347	201	206	80	11	2	–	–	–	–	–
Manufacturing	199	40.0	522.00	509.00	482.50– 559.50	–	–	–	–	–	–	–	2	13	9	65	44	45	18	4	1	–	–	–	–	–
Nonmanufacturing	950	38.5	498.50	491.50	482.50– 537.50	–	–	–	–	1	9	27	33	142	86	282	157	161	44	7	1	–	–	–	–	–
Computer programmers III	908	39.5	578.00	578.00	519.50– 627.50	–	–	–	–	–	–	–	12	31	35	85	173	195	236	88	40	7	6	–	–	–
Manufacturing	383	40.0	606.00	614.00	576.50– 645.00	–	–	–	–	–	–	–	1	1	–	29	35	89	144	63	17	3	1	–	–	–
Nonmanufacturing	525	39.5	558.00	547.00	500.00– 613.50	–	–	–	–	–	–	–	11	30	35	56	138	106	92	25	23	4	5	–	–	–
Computer programmers IV	261	40.0	796.00	795.00	742.00– 844.50	–	–	–	–	–	–	–	–	–	–	–	–	–	6	18	54	89	73	36	16	7
Computer operators	1,755	39.5	382.50	371.00	328.50– 419.00	38	48	74	236	250	264	286	147	133	75	45	88	48	21	–	2	–	–	–	–	–
Manufacturing	799	39.5	386.00	371.00	336.00– 417.50	–	2	34	67	154	153	123	100	45	40	19	41	14	7	–	–	–	–	–	–	–
Nonmanufacturing	956	39.5	379.00	371.00	321.00– 430.00	38	46	40	169	96	111	163	47	88	35	26	47	34	14	–	2	–	–	–	–	–
Transportation and utilities	136	40.0	474.50	440.50	394.50– 562.50	–	–	–	–	5	14	23	5	27	1	5	16	29	11	–	–	–	–	–	–	–
Computer operators I	214	39.5	293.50	305.50	254.50– 314.50	38	33	25	78	29	8	3	2	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	166	39.5	284.50	295.50	254.50– 309.50	38	33	18	62	9	3	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators II	793	39.5	356.50	349.00	323.00– 384.50	–	15	49	151	184	130	160	37	40	11	6	10	–	–	–	–	–	–	–	–	–
Manufacturing	391	39.5	358.50	352.50	331.50– 381.00	–	2	27	44	114	89	80	26	7	10	4	8	–	–	–	–	–	–	–	–	–
Nonmanufacturing	402	39.5	354.50	348.50	321.00– 384.50	–	13	22	107	70	41	100	11	33	1	2	2	–	–	–	–	–	–	–	–	–
Transportation and utilities	50	40.0	413.50	395.00	394.50– 432.50	–	–	–	–	–	5	21	1	20	–	1	2	–	–	–	–	–	–	–	–	–
Computer operators III	603	40.0	426.50	416.00	371.00– 464.50	–	–	–	9	37	126	89	92	79	45	23	57	33	13	–	–	–	–	–	–	–
Manufacturing	274	40.0	405.50	392.00	368.00– 426.00	–	–	–	9	20	59	58	57	26	15	6	19	2	1	–	–	–	–	–	–	–
Nonmanufacturing	329	40.0	444.50	432.50	371.00– 493.00	–	–	–	–	17	67	31	35	51	30	17	38	31	12	–	–	–	–	–	–	–
Transportation and utilities	71	40.0	526.00	562.50	448.50– 576.00	–	–	–	–	–	8	–	3	7	1	4	10	27	11	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-4. Weekly earnings of professional and technical workers in Minneapolis-St. Paul, MN-WI, February 1988 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[1]	Median[1]	Middle range[3]	225 and under 250	250 – 275	275 – 300	300 – 325	325 – 350	350 – 375	375 – 400	400 – 425	425 – 450	450 – 475	475 – 500	500 – 550	550 – 600	600 – 650	650 – 700	700 – 750	750 – 800	800 – 850	850 – 900	900 – 950	950 and over
Computer operators IV	145	39.5	470.50	461.50	404.00– 519.50	–	–	–	–	–	–	34	18	14	19	18	21	15	8	–	2	–	–	–	–	–
Nonmanufacturing	59	39.5	448.50	375.00	375.00– 489.50	–	–	–	–	–	–	30	–	4	4	7	7	3	2	–	2	–	–	–	–	–
Drafters	1,708	40.0	473.50	461.00	399.00– 536.50	–	–	13	48	72	119	188	196	145	178	125	257	154	103	77	31	4	–	–	–	–
Manufacturing	1,220	40.0	481.50	474.00	403.00– 543.00	–	–	1	13	46	83	137	118	112	146	100	182	119	72	57	30	4	–	–	–	–
Nonmanufacturing	488	40.0	453.50	428.50	378.00– 521.00	–	–	12	35	26	36	51	78	33	30	25	75	35	31	20	1	–	–	–	–	–
Drafters II	186	40.0	346.50	351.50	324.00– 359.00	–	–	8	44	39	73	9	10	2	1	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	112	40.0	356.00	357.00	337.50– 359.00	–	–	–	13	17	64	5	10	2	1	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	74	40.0	329.00	324.00	314.50– 342.00	–	–	8	31	22	9	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Drafters III	423	40.0	397.50	392.50	378.50– 420.00	–	–	–	–	32	42	163	98	53	22	10	2	1	–	–	–	–	–	–	–	–
Manufacturing	255	40.0	394.00	378.00	375.00– 413.50	–	–	–	–	28	19	117	40	27	14	7	2	1	–	–	–	–	–	–	–	–
Nonmanufacturing	168	40.0	403.00	400.00	382.50– 420.00	–	–	–	–	4	23	46	58	26	8	3	–	–	–	–	–	–	–	–	–	–
Drafters IV	631	40.0	490.00	474.50	444.50– 526.00	–	–	–	–	–	4	15	84	88	133	56	153	61	18	15	8	–	–	–	–	–
Manufacturing	489	40.0	490.50	474.50	444.50– 522.00	–	–	–	–	–	–	14	84	79	111	34	102	48	18	15	8	–	–	–	–	–
Nonmanufacturing	142	40.0	488.00	498.00	450.00– 526.00	–	–	–	–	–	4	1	20	7	22	22	51	15	–	–	–	–	–	–	–	–
Drafters V	457	40.0	577.00	573.50	518.00– 632.50	–	–	–	–	–	–	–	4	4	20	59	102	92	87	82	23	4	–	–	–	–
Manufacturing	381	40.0	571.00	559.50	501.00– 629.00	–	–	–	–	–	–	–	4	4	20	59	78	72	56	42	22	4	–	–	–	–
Nonmanufacturing	96	40.0	600.00	606.00	552.00– 641.00	–	–	–	–	–	–	–	–	–	–	–	24	20	31	20	1	–	–	–	–	–
Electronics technicians	1,922	40.0	535.50	522.00	454.50– 611.50	–	–	–	–	4	26	33	126	191	211	181	306	261	221	187	114	11	–	–	–	–
Manufacturing	1,838	40.0	530.50	518.00	452.50– 602.00	–	–	–	–	4	26	33	126	191	204	175	303	256	218	158	85	11	–	–	–	–
Nonmanufacturing: Transportation and utilities	84	40.0	648.00	696.00	583.00– 709.00	–	–	–	–	–	–	–	–	–	7	8	3	5	5	29	29	–	–	–	–	–
Electronics technicians I: Manufacturing	229	40.0	412.50	411.00	387.50– 434.00	–	–	–	–	4	25	56	88	47	21	8	2	–	–	–	–	–	–	–	–	–
Electronics technicians III	739	40.0	618.50	622.00	585.00– 669.00	–	–	–	–	–	–	–	–	–	2	26	118	138	203	158	85	11	–	–	–	–
Manufacturing	739	40.0	618.50	622.00	585.00– 669.00	–	–	–	–	–	–	–	–	–	2	26	118	138	203	158	85	11	–	–	–	–
Registered industrial nurses	60	40.0	560.50	549.00	525.50– 606.00	–	–	–	–	–	–	1	–	–	3	3	26	10	16	1	–	–	–	–	–	–

* Workers were distributed as follows: 29 at $950 to $1,000; 9 at $1,000 to $1,050; 2 at $1,050 to $1,100; and 2 at $1,100 to $1,150.

Also see footnotes at end of tables.

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Minneapolis-St. Paul, MN-WI, February 1988

Sex,[a] occupation, and industry division	Number of workers	Average (mean[b])	
		Weekly hours[1] (standard)	Weekly earnings (in dollars)[2]
Office occupations - men			
Order clerks	416	40.0	474.50
Manufacturing	50	40.0	383.00
Order clerks II	388	40.0	486.00
Office occupations - women			
Secretaries	5,311	39.5	385.50
Nonmanufacturing	2,645	38.5	379.50
Secretaries II	1,377	38.0	342.50
Nonmanufacturing	1,014	37.5	344.00
Secretaries III	1,748	39.5	372.50
Manufacturing	813	40.0	363.50
Nonmanufacturing	935	39.5	380.00
Secretaries IV	1,288	40.0	412.50
Manufacturing	770	40.0	407.50
Nonmanufacturing	518	39.5	420.00
Secretaries V	676	40.0	485.00
Nonmanufacturing	144	40.0	497.50
Stenographers	78	39.5	378.50
Typists	552	39.0	263.50
Nonmanufacturing	339	38.5	265.00
Typists I	293	38.5	246.00
Nonmanufacturing	252	38.0	243.00
Typists II	259	39.5	284.00
Nonmanufacturing	87	38.5	328.50
Word processors	1,150	39.5	322.00
Manufacturing	328	39.5	324.50
Nonmanufacturing	822	39.5	321.50
Word processors I	455	39.5	281.00
Manufacturing	152	39.5	286.00
Nonmanufacturing	303	39.0	279.00
Word processors II	695	39.5	349.00
Manufacturing	176	39.5	357.50
Nonmanufacturing	519	39.5	346.00
Key entry operators	2,797	39.5	267.00
Manufacturing	495	40.0	299.00
Nonmanufacturing	2,302	39.0	260.00
Key entry operators I	1,867	39.0	247.50
Manufacturing	367	40.0	287.50
Nonmanufacturing	1,500	39.0	237.50
Transportation and utilities	30	39.5	308.50
Key entry operators II	930	39.5	306.50
Manufacturing	128	39.5	333.00
Nonmanufacturing	802	39.5	302.50
Accounting clerks	4,533	39.5	310.00
Nonmanufacturing	2,655	39.5	298.50
Accounting clerks I	593	40.0	245.00
Nonmanufacturing	418	39.5	233.00
Accounting clerks II	2,255	39.5	297.50
Manufacturing	713	40.0	301.00
Nonmanufacturing	1,542	39.5	296.00
Accounting clerks III			
Manufacturing	783	40.0	343.00
Payroll clerks	588	40.0	331.00
Manufacturing	262	40.0	347.50
Nonmanufacturing	326	39.5	318.00
File clerks	805	39.0	224.00
Nonmanufacturing	511	38.5	230.00
File clerks I	693	39.0	215.50
Nonmanufacturing	412	38.5	219.00
File clerks II	105	39.0	271.50
Nonmanufacturing	94	39.0	270.50
Messengers	159	39.5	221.50
Nonmanufacturing	116	39.5	212.50
Order clerks	423	40.0	350.00
Manufacturing	366	40.0	340.00
Order clerks I	173	40.0	283.00
Manufacturing	155	40.0	285.00
Order clerks II	250	40.0	396.00
Manufacturing	211	40.0	380.50
Receptionists	389	40.0	280.00
Manufacturing	128	40.0	292.50
Nonmanufacturing	261	40.0	273.50
Switchboard operators	277	40.0	279.00
Manufacturing	58	39.5	296.00
Nonmanufacturing	219	40.0	275.00
Switchboard operator-receptionists	1,010	39.5	278.50
Manufacturing	345	40.0	279.00
Nonmanufacturing	665	39.5	278.50
Transportation and utilities	52	40.0	250.00
Professional and technical occupations - men			
Computer systems analysts:			
Manufacturing	584	40.0	749.50
Computer systems analysts I:			
Manufacturing	91	40.0	585.00
Computer systems analysts IV	140	40.0	900.00
Computer programmers:			
Manufacturing	645	40.0	631.00
Computer programmers I:			
Manufacturing	81	40.0	407.00
Computer programmers II	617	38.5	497.50
Manufacturing	117	40.0	512.00
Computer operators:			
Manufacturing	392	40.0	384.50
Computer operators II:			
Manufacturing	174	39.5	348.50
Computer operators III	295	40.0	419.50
Manufacturing	152	40.0	406.50
Drafters	1,336	40.0	471.50
Manufacturing	886	40.0	481.00
Nonmanufacturing	450	40.0	452.00
Drafters II	131	40.0	343.50
Manufacturing	63	40.0	359.50
Nonmanufacturing	68	40.0	328.50
Drafters III	340	40.0	399.00
Manufacturing	180	40.0	396.50
Nonmanufacturing	160	40.0	401.50
Drafters IV	531	40.0	494.00
Manufacturing	407	40.0	496.00
Nonmanufacturing	124	40.0	489.00
Drafters V:			
Nonmanufacturing	90	40.0	599.00
Electronics technicians	1,521	40.0	535.00
Manufacturing	1,471	40.0	532.00
Electronics technicians III	614	40.0	614.50
Manufacturing	614	40.0	614.50
Professional and technical occupations - women			
Computer systems analysts:			
Computer systems analysts I:			
Manufacturing	106	40.0	559.00
Computer programmers:			
Computer programmers I:			
Manufacturing	51	40.0	423.00
Computer operators:			
Computer operators I	143	40.0	284.50
Nonmanufacturing	126	40.0	280.00
Computer operators II:			
Manufacturing	186	40.0	384.50
Drafters:			
Drafters II	53	40.0	353.00
Drafters III:			
Manufacturing	64	40.0	389.00
Registered industrial nurses	53	40.0	580.50

See footnotes at end of tables.

Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[2]	Median[2]	Middle range[2]	Under 7.00	7.00 and under 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 12.50	12.50 – 13.00	13.00 – 13.50	13.50 – 14.00	14.00 – 14.50	14.50 – 15.00	15.00 – 15.50	15.50 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00	19.00 and over
Maintenance carpenters	155	14.73	15.11	13.05–16.17	–	–	–	–	–	–	–	9	–	–	2	–	13	28	6	1	14	9	12	51	10	–	–
Manufacturing	103	14.48	14.85	13.19–16.17	–	–	–	–	–	–	–	9	–	–	2	–	–	21	6	1	14	6	12	31	1	–	–
Nonmanufacturing	52	15.22	16.58	12.94–16.58	–	–	–	–	–	–	–	–	–	–	–	–	13	7	–	–	–	3	–	20	9	–	–
Transportation and utilities	25	13.86	12.90	12.87–13.04	–	–	–	–	–	–	–	–	–	–	–	–	13	7	–	–	–	–	–	–	5	–	–
Maintenance electricians	555	15.65	15.11	14.44–16.45	–	–	–	–	–	–	–	–	–	–	–	2	6	2	6	209	44	26	30	152	23	27	28
Manufacturing	530	15.57	14.94	14.44–16.45	–	–	–	–	–	–	–	–	–	–	–	2	6	2	6	209	44	23	26	150	17	17	28
Maintenance painters	77	15.44	15.89	15.89–16.01	–	–	–	–	–	–	–	–	–	–	–	1	9	2	–	2	3	–	35	22	2	1	–
Manufacturing	62	15.23	15.89	14.85–15.89	–	–	–	–	–	–	–	–	–	–	–	1	9	2	–	2	3	–	33	12	–	–	–
Maintenance machinists	517	15.24	15.99	14.21–15.99	–	–	–	–	–	–	–	–	–	–	1	1	9	36	81	26	79	17	210	28	2	27	–
Manufacturing	503	15.18	15.99	13.90–15.99	–	–	–	–	–	–	–	–	–	–	1	1	9	36	79	26	79	17	209	28	–	18	–
Maintenance mechanics (machinery)	1,055	13.87	13.71	13.71–15.05	–	–	–	–	2	–	–	–	75	2	8	60	46	58	457	14	7	242	51	13	20	–	–
Manufacturing	1,015	13.77	13.71	13.71–15.05	–	–	–	–	2	–	–	–	75	2	6	59	46	58	455	14	6	242	50	–	–	–	–
Maintenance pipefitters	233	15.60	14.85	14.85–16.34	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	4	110	–	–	100	1	–	8
Manufacturing	224	15.45	14.85	14.85–16.34	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	4	110	–	–	100	–	–	–
Millwrights	196	15.76	15.94	15.94–16.17	–	–	–	–	–	–	–	–	–	–	–	–	7	4	–	1	5	12	98	69	–	–	–
Manufacturing	196	15.76	15.94	15.94–16.17	–	–	–	–	–	–	–	–	–	–	–	–	7	4	–	1	5	12	98	69	–	–	–
Motor vehicle mechanics	574	13.00	13.58	10.25–15.08	–	–	–	39	5	52	3	57	18	11	9	27	40	6	52	23	52	85	8	81	–	6	–
Manufacturing	84	14.10	13.86	13.50–14.73	–	–	–	–	–	–	–	–	–	–	2	15	1	–	39	4	8	1	8	–	–	6	–
Nonmanufacturing	490	12.81	13.00	10.25–15.08	–	–	–	39	5	52	3	57	18	11	7	12	39	6	13	19	44	84	–	81	–	–	–
Transportation and utilities	444	12.67	12.74	10.25–15.08	–	–	–	39	3	51	3	57	18	9	3	12	37	6	12	15	42	56	–	81	–	–	–
General maintenance workers	758	11.26	11.14	10.10–12.77	15	8	59	18	16	9	26	85	55	107	36	84	134	14	29	–	41	11	3	8	–	–	–
Manufacturing	483	11.71	11.60	10.55–12.77	–	–	28	–	3	1	1	71	43	72	29	53	110	9	24	–	31	5	3	–	–	–	–
Nonmanufacturing	275	10.47	10.50	8.17–12.24	15	8	31	18	13	8	25	14	12	35	7	31	24	5	5	–	10	6	–	8	–	–	–
Transportation and utilities	30	11.20	9.81	8.17–16.50	–	–	–	15	–	–	–	–	–	1	6	–	–	–	–	–	–	–	–	8	–	–	–
Maintenance trades helpers	68	10.25	11.66	7.02–12.87	–	24	1	–	3	–	–	5	–	–	2	4	29	–	–	–	–	–	–	–	–	–	–
Manufacturing	59	10.23	11.66	7.02–12.87	–	24	–	–	–	–	–	4	–	–	2	–	29	–	–	–	–	–	–	–	–	–	–
Machine-tool operators (toolroom)	187	12.23	12.60	10.75–13.84	–	–	24	–	–	–	–	–	27	–	27	–	29	4	36	16	18	4	–	2	–	–	–
Manufacturing	187	12.23	12.60	10.75–13.84	–	–	24	–	–	–	–	–	27	–	27	–	29	4	36	16	18	4	–	2	–	–	–
Tool and die makers	424	15.80	15.66	15.22–17.02	–	–	–	–	–	–	–	–	4	–	12	4	4	6	1	19	49	82	33	26	183	1	–
Manufacturing	424	15.80	15.66	15.22–17.02	–	–	–	–	–	–	–	–	4	–	12	4	4	6	1	19	49	82	33	26	183	1	–
Stationary engineers	231	14.18	14.21	12.91–15.00	–	–	–	–	–	–	–	1	14	–	–	17	31	–	32	47	26	17	24	9	13	–	–
Manufacturing	88	14.69	14.94	13.71–15.87	–	–	–	–	–	–	–	–	2	–	–	1	4	–	17	5	18	17	24	–	–	–	–
Nonmanufacturing	143	13.87	14.00	12.69–14.40	–	–	–	–	–	–	–	1	12	–	–	16	27	–	15	42	8	–	–	9	13	–	–

See footnotes at end of tables.

Table A-5. Hourly earnings of material movement and custodial workers in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																				
		Mean[2]	Median[3]	Middle range[4]	3.35 and under 3.50	3.50 – 4.00	4.00 – 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 11.00	11.00 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00
Truckdrivers	3,620	12.72	13.50	11.00–14.62	–	–	–	160	58	48	29	8	3	19	3	85	32	101	376	485	259	304	831	700	–	–	141
Manufacturing	657	13.15	12.19	11.66–13.95	–	–	–	–	–	27	–	–	–	2	–	33	27	10	41	166	47	140	23	–	–	–	141
Nonmanufacturing	2,963	12.63	14.01	10.22–14.62	–	–	–	160	58	19	29	8	3	17	3	32	5	91	335	319	212	164	808	700	–	–	–
Transportation and utilities	2,019	12.99	14.71	12.74–15.44	–	–	–	160	58	19	5	1	3	17	3	31	2	91	24	43	181	143	538	700	–	–	–
Truckdrivers, light truck	630	12.15	12.74	10.00–12.87	–	–	–	24	12	31	27	5	1	4	2	5	30	9	106	38	180	15	–	–	–	–	141
Manufacturing	283	14.20	13.53	10.21–18.66	–	–	–	–	–	27	–	–	–	2	–	5	27	9	31	20	6	15	–	–	–	–	141
Nonmanufacturing	347	10.48	12.74	10.00–12.74	–	–	–	24	12	4	27	5	1	2	2	–	3	–	75	18	174	–	–	–	–	–	–
Truckdrivers, medium truck	1,054	14.22	15.44	13.58–15.44	–	–	–	1	1	–	1	3	2	–	1	29	2	2	17	152	36	17	240	550	–	–	–
Truckdrivers, heavy truck	983	10.07	10.22	9.57–11.46	–	–	–	135	45	15	–	–	–	15	–	30	–	90	252	198	21	102	80	–	–	–	–
Nonmanufacturing	875	9.66	10.22	8.54–11.46	–	–	–	135	45	15	–	–	–	15	–	30	–	90	252	193	20	–	80	–	–	–	–
Truckdrivers, tractor-trailer	702	14.75	14.82	14.71–14.82	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	10	22	15	504	150	–	–	–
Manufacturing	53	13.53	13.44	12.19–14.70	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18	13	22	–	–	–	–
Nonmanufacturing	649	14.85	14.82	14.71–14.82	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	10	4	2	482	150	–	–	–
Transportation and utilities	424	14.97	14.71	14.71–15.69	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	272	150	–	–	–
Shippers	235	11.46	11.25	10.70–13.34	–	–	–	–	–	–	–	–	–	6	4	41	–	2	11	94	4	55	18	–	–	–	–
Manufacturing	167	11.19	11.25	8.96–13.34	–	–	–	–	–	–	–	–	–	6	1	41	–	1	7	54	1	54	2	–	–	–	–
Nonmanufacturing	68	12.12	11.48	11.48–13.44	–	–	–	–	–	–	–	–	–	–	3	–	–	1	4	40	3	1	16	–	–	–	–
Receivers	215	9.47	9.86	8.47–11.53	–	–	–	2	3	25	39	3	3	7	16	3	6	3	9	53	12	31	–	–	–	–	–
Manufacturing	64	10.45	10.61	8.34–12.53	–	–	–	–	–	–	–	2	–	4	15	–	4	3	4	15	11	6	–	–	–	–	–
Nonmanufacturing	151	9.06	7.75	8.47–11.48	–	–	–	2	3	25	39	1	3	3	1	3	2	–	5	38	1	25	–	–	–	–	–
Shippers and receivers	831	9.14	9.61	8.64–11.47	–	–	–	108	9	72	13	15	86	4	29	12	13	59	160	175	45	2	28	1	–	–	–
Manufacturing	447	9.59	9.61	7.29–11.64	–	–	–	–	–	36	12	12	81	4	29	12	1	58	–	155	45	2	–	–	–	–	–
Nonmanufacturing	384	8.61	10.89	4.62–10.94	–	–	–	108	9	36	1	3	5	–	–	–	12	1	160	20	–	–	28	1	–	–	–
Warehousemen	2,364	12.00	11.36	10.44–14.21	–	–	–	–	–	–	4	1	8	25	35	18	8	292	487	378	405	65	78	562	–	–	–
Manufacturing	705	10.50	10.05	9.84–11.17	–	–	–	–	–	–	–	–	–	–	24	18	3	280	207	82	95	7	9	–	–	–	–
Nonmanufacturing	1,659	12.84	12.06	11.36–15.02	–	–	–	–	–	–	4	1	8	25	11	–	5	32	280	294	310	58	69	562	–	–	–
Transportation and utilities	74	12.00	12.49	9.65–13.16	–	–	–	–	–	–	–	–	–	–	–	–	–	25	1	6	6	22	14	–	–	–	–
Order fillers	1,933	10.65	10.84	10.84–11.49	–	–	3	6	18	3	144	18	18	70	39	–	2	7	1117	234	130	–	38	86	–	–	–
Manufacturing	757	9.89	10.67	7.83–11.71	–	–	–	–	–	–	144	12	12	70	36	–	2	6	127	234	114	–	–	–	–	–	–
Shipping packers	403	9.50	10.32	8.18–10.86	–	–	–	–	–	28	6	6	–	–	72	72	5	–	161	11	42	–	–	–	–	–	–
Manufacturing	403	9.50	10.32	8.18–10.86	–	–	–	–	–	28	6	6	–	–	72	72	5	–	161	11	42	–	–	–	–	–	–
Material handling laborers	977	10.70	10.82	8.42–11.95	–	–	–	–	–	–	–	9	158	9	76	55	3	30	249	159	55	3	152	–	–	–	19
Manufacturing	768	9.87	10.39	8.01–10.96	–	–	–	–	–	–	–	6	158	5	76	55	2	29	248	125	45	–	–	–	–	–	19
Forklift operators	765	11.99	11.88	11.25–12.84	–	–	1	–	1	1	1	–	2	2	–	–	20	72	61	249	200	81	58	18	–	–	–
Manufacturing	651	11.86	11.41	11.10–12.84	–	–	–	–	–	–	–	–	–	–	–	–	20	72	61	249	200	49	–	–	–	–	–
Nonmanufacturing	114	13.88	14.72	13.54–14.81	–	–	1	–	1	1	1	–	2	2	–	–	–	–	–	–	–	32	58	18	–	–	–
Guards	2,309	6.59	5.30	4.75– 8.54	18	104	253	359	451	298	73	77	24	25	35	69	28	15	232	125	62	43	17	1	–	–	–
Manufacturing	447	10.86	10.83	10.14–11.48	–	–	–	–	–	9	–	4	4	1	6	15	16	14	158	125	62	31	1	1	–	–	–
Nonmanufacturing	1,862	5.57	5.00	4.50– 5.75	18	104	253	359	451	289	73	73	20	24	29	54	12	1	74	–	–	12	16	–	–	–	–
Transportation and utilities	31	13.47	14.08	13.83–14.08	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	12	16	–	–	–	–
Guards I:																											
Manufacturing	419	10.77	10.68	10.14–11.07	–	–	–	–	–	9	–	4	4	1	6	15	16	14	154	125	38	31	1	1	–	–	–
Janitors, porters, and cleaners	8,310	6.21	5.30	4.90– 6.55	–	10	253	2414	2212	567	709	194	85	580	102	114	139	43	485	244	131	28	–	–	–	–	–
Manufacturing	1,315	9.56	10.32	8.57–10.88	–	2	–	–	27	36	112	44	29	21	31	87	118	35	478	213	79	3	–	–	–	–	–
Nonmanufacturing	6,995	5.57	5.25	4.89– 5.86	–	8	253	2414	2185	531	597	150	56	559	71	27	21	8	7	31	52	25	–	–	–	–	–
Transportation and utilities	149	10.74	11.04	9.26–12.26	–	–	–	–	–	15	–	2	–	–	2	17	7	7	7	23	44	25	–	–	–	–	–

See footnotes at end of tables.

Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, in Minneapolis-St. Paul, MN-WI, February 1988

Sex,[1] occupation, and industry division	Number of workers	Average (mean[2]) hourly earnings (in dollars)[3]
Maintenance, toolroom, and powerplant occupations - men		
Maintenance carpenters	143	14.87
Manufacturing	101	14.50
Maintenance electricians	544	15.65
Manufacturing	520	15.57
Maintenance painters	76	15.43
Manufacturing	61	15.21
Maintenance machinists	514	15.24
Manufacturing	501	15.18
Maintenance mechanics (machinery)	1,035	13.84
Manufacturing	1,005	13.76
Maintenance pipefitters	231	15.59
Manufacturing	222	15.44
Millwrights	195	15.76
Manufacturing	195	15.76
Motor vehicle mechanics	533	12.77
Manufacturing	84	14.10
Nonmanufacturing	449	12.52
Transportation and utilities	404	12.32
General maintenance workers	737	11.23
Manufacturing	468	11.66
Nonmanufacturing	269	10.49
Transportation and utilities	30	11.20
Maintenance trades helpers	63	10.30
Machine-tool operators (toolroom)	187	12.23
Manufacturing	187	12.23
Tool and die makers	393	15.86
Manufacturing	393	15.86
Stationary engineers	226	14.13
Manufacturing	88	14.69
Nonmanufacturing	138	13.77
Material movement and custodial occupations - men		
Truckdrivers		
Manufacturing	647	13.16
Truckdrivers, light truck	620	12.22
Manufacturing	279	14.23
Nonmanufacturing	341	10.57
Truckdrivers, heavy truck	981	10.06
Nonmanufacturing	875	9.66
Truckdrivers, tractor-trailer		
Manufacturing	53	13.53
Shippers	195	11.59
Manufacturing	135	11.29
Nonmanufacturing	60	12.26
Receivers	195	9.41
Nonmanufacturing	149	9.03
Shippers and receivers	614	10.15
Manufacturing	357	10.03
Nonmanufacturing	257	10.32
Warehousemen	2,247	12.08
Manufacturing	621	10.54
Nonmanufacturing	1,626	12.67
Transportation and utilities	73	12.00
Order filers		
Manufacturing	453	10.80
Material handling laborers	771	11.01
Manufacturing	563	9.99
Forklift operators	650	12.08
Manufacturing	536	11.69
Nonmanufacturing	114	13.88
Guards		
Manufacturing	389	10.87
Guards I		
Manufacturing	364	10.77
Guards II	130	8.87
Nonmanufacturing	105	8.05
Janitors, porters, and cleaners		
Manufacturing	967	9.56
Material movement and custodial occupations - women		
Shippers and receivers	205	5.88
Warehousemen		
Manufacturing	84	10.21
Order filers	331	8.26
Manufacturing	304	8.53
Shipping packers	245	9.31
Manufacturing	245	9.31
Material handling laborers	175	9.40
Manufacturing	175	9.40
Guards		
Manufacturing	58	10.85
Guards I		
Manufacturing	55	10.75

See footnotes at end of tables

Table A-7. Indexes of earnings and percent increases for selected occupational groups, Minneapolis-St. Paul, MN-WI, selected periods

Period[a]	All industries					Manufacturing					Nonmanufacturing			
	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Unskilled plant
Indexes (January 1977 = 100):														
February 1987	206.6	201.5	219.9	192.4	186.1	206.0	203.5	(*)	194.2	201.2	206.7	200.6	(*)	180.1
February 1988	215.3	208.1	230.5	197.4	190.0	213.6	209.6	(*)	199.4	205.2	216.2	207.8	(*)	183.9
Percent increases:														
January 1972 to January 1973	5.1	(*)	5.9	6.8	6.8	4.2	(*)	5.4	6.4	6.3	5.5	(*)	(*)	7.1
January 1973 to January 1974	6.2	(*)	5.6	6.4	6.1	5.4	(*)	6.4	6.1	6.6	6.7	(*)	(*)	5.8
January 1974 to January 1975	8.6	8.4	7.8	9.2	9.3	7.7	6.9	6.5	9.0	9.3	9.0	10.2	(*)	9.2
January 1975 to January 1976	7.7	6.5	9.9	8.1	7.7	7.9	5.0	9.8	8.9	10.1	7.6	7.8	(*)	6.7
January 1976 to January 1977	7.9	5.5	8.2	8.7	8.9	8.1	5.8	9.0	8.8	8.3	7.7	5.0	(*)	9.2
January 1977 to January 1978	8.0	7.3	6.8	8.2	8.1	7.1	6.5	6.3	8.1	9.5	9.4	8.1	(*)	7.5
January 1978 to January 1979	8.6	8.5	7.6	8.3	8.1	8.7	8.5	7.5	8.5	8.7	8.5	8.4	(*)	7.9
January 1979 to January 1980	9.1	9.7	10.3	10.4	10.8	8.0	8.6	10.2	9.7	9.9	9.8	10.7	(*)	11.1
January 1980 to January 1981	11.6	10.0	14.7	11.7	11.1	11.6	10.5	15.1	11.4	11.1	11.6	9.6	(*)	11.1
January 1981 to Janursy 1982	9.2	8.9	12.5	9.7	8.0	9.2	9.7	12.6	9.8	10.5	9.2	8.3	(*)	6.9
January 1982 to January 1983	7.8	6.9	6.7	5.7	5.9	8.0	7.0	6.2	5.8	7.2	7.7	6.9	(*)	5.3
January 1983 to January 1984	5.9	5.9	6.7	4.6	3.3	6.2	5.9	6.6	4.9	5.6	5.7	5.9	(*)	2.4
January 1984 to January 1985	5.0	5.5	6.8	3.7	3.4	5.7	6.5	8.5	4.4	4.4	4.5	4.7	(*)	2.9
January 1985 to January 1986	5.3	4.5	5.0	3.2	2.7	6.0	4.8	(*)	3.7	3.3	4.8	4.3	(*)	2.4
January 1986 to February 1987:														
13-month increase	5.0	5.5	5.3	2.6	3.1	4.6	5.7	(*)	2.6	2.6	5.3	5.4	(*)	3.5
Annual rate of increase	4.6	5.1	4.9	2.4	2.9	4.2	5.3	(*)	2.4	2.4	4.9	5.0	(*)	3.2
February 1987 to February 1988	4.2	3.3	4.8	2.6	2.1	3.7	3.0	(*)	2.7	2.0	4.6	3.6	(*)	2.1

See footnotes at end of tables.

Table A-8. Pay relationships in establishments with paired office clerical occupations, Minneapolis-St. Paul, MN-WI, February 1988

Occupation for which earnings are compared	Occupation for which average earnings equal 100																								
	Secretaries					Typists		Word processors		Key entry operators		Accounting clerks				Payroll clerks	File clerks		Messengers	Order clerks		Receptionists	Switchboard operators	Switchboard operator-receptionists
	I	II	III	IV	V	I	II	I	II	I	II	I	II	III	IV		I	II		I	II			
Secretaries I	100	(*)	82	71	(*)	(*)	(*)	(*)	(*)	118	98	(*)	101	90	(*)	103	130	(*)	140	(*)	(*)	(*)	(*)	107
Secretaries II	(*)	100	86	75	69	135	123	111	100	128	104	129	115	98	88	106	146	117	151	(*)	(*)	118	108	114
Secretaries III	122	113	100	84	71	133	118	123	111	131	111	137	122	105	97	111	157	143	154	(*)	87	119	120	131
Secretaries IV	140	134	119	100	85	194	134	125	111	158	124	148	137	120	118	124	180	171	191	133	(*)	137	148	136
Secretaries V	(*)	145	141	118	100	(*)	(*)	(*)	(*)	183	147	(*)	155	136	127	147	214	203	220	(*)	(*)	160	159	176
Typists I	(*)	74	75	52	(*)	100	82	87	70	(*)	81	(*)	82	70	(*)	73	102	85	(*)	(*)	(*)	(*)	92	91
Typists II	(*)	81	84	75	(*)	123	100	104	79	(*)	94	96	90	88	82	(*)	(*)	(*)	(*)	(*)	66	(*)	96	107
Word processors I	(*)	90	81	80	(*)	115	96	100	83	103	94	112	100	89	72	88	131	35	124	(*)	(*)	114	103	103
Word processors II	(*)	100	90	90	(*)	142	127	121	100	126	106	129	111	100	87	97	149	126	142	(*)	90	120	106	121
Key entry operators I	85	78	77	63	55	(*)	(*)	97	79	100	81	109	87	82	75	86	120	108	(*)	(*)	73	97	99	91
Key entry operators II	102	96	90	80	68	124	106	107	95	123	100	123	107	96	87	99	133	126	140	98	76	115	112	106
Accounting clerks I	(*)	78	73	67	(*)	(*)	104	89	78	92	81	100	89	80	67	87	123	94	118	(*)	(*)	97	94	95
Accounting clerks II	99	87	82	73	64	122	111	100	90	115	93	112	100	86	76	91	131	113	136	100	64	105	94	105
Accounting clerks III	110	102	95	83	74	142	114	113	100	122	104	125	116	100	87	104	149	130	151	(*)	96	118	111	118
Accounting clerks IV	(*)	114	103	85	79	(*)	122	140	114	133	114	148	132	115	100	115	174	132	153	(*)	(*)	128	120	135
Payroll clerks	97	94	90	81	68	138	(*)	114	103	117	101	115	110	97	87	100	138	125	143	(*)	83	120	108	117
File clerks I	77	69	64	56	47	98	(*)	77	67	83	75	82	77	67	57	73	100	79	92	(*)	(*)	(*)	(*)	84
File clerks II	(*)	86	70	58	49	118	(*)	105	90	93	79	106	89	77	76	80	127	100	113	(*)	(*)	84	82	97
Messengers	72	66	65	52	45	(*)	(*)	81	70	(*)	71	85	74	66	66	70	108	89	100	74	64	74	76	82
Order clerks I	(*)	(*)	(*)	75	(*)	(*)	(*)	(*)	(*)	(*)	104	(*)	100	(*)	(*)	(*)	(*)	(*)	135	100	84	95	(*)	110
Order clerks II	(*)	(*)	115	(*)	(*)	(*)	152	(*)	111	136	132	(*)	157	104	(*)	120	(*)	(*)	157	119	100	116	(*)	(*)
Receptionists	(*)	84	84	73	62	(*)	(*)	88	83	103	87	103	95	84	78	83	(*)	119	135	106	86	100	(*)	103
Switchboard operators	(*)	93	81	68	63	109	104	97	94	101	89	106	107	90	83	93	(*)	122	131	(*)	(*)	(*)	100	119
Switchboard operator-receptionists	93	88	76	73	57	109	94	97	83	109	95	105	96	85	74	86	119	103	122	91	(*)	97	84	100

NOTE: This matrix table shows the average (mean) relationship of earnings in establishments between any two occupations compared. Earnings for an occupation in the table stub are expressed as a percent of the earnings for an occupation in the column heading at the point where the data lines for the two intersect. For example, reading across the Secretaries III row, the 122 in the Secretaries I column indicates that Secretaries III average 122 percent of (or 22 percent more than) the earnings of Secretaries I.

See appendix A for method of computation.

Also see footnotes at end of tables.

Table A-9. Pay relationships in establishments with paired professional and technical occupations, Minneapolis-St. Paul, MN-WI, February 1988

Occupation for which earnings are compared	Occupation for which average earnings equal 100																		
	Computer systems analysts				Computer programmers				Computer operators				Drafters				Electronics technicians	Registered industrial nurses
	I	II	III	IV	I	II	III	IV	I	II	III	IV	II	III	IV	V	III	
Computer systems analysts I	100	86	74	63	133	117	104	(*)	187	162	135	(*)	159	141	122	107	93	96
Computer systems analysts II	116	100	85	72	156	136	116	80	226	183	151	131	190	165	135	121	99	112
Computer systems analysts III	135	117	100	86	178	154	137	(*)	266	219	177	157	226	193	160	137	121	134
Computer systems analysts IV	158	140	116	100	180	167	138	(*)	269	236	198	176	201	210	170	151	136	149
Computer programmers I	75	64	56	56	100	82	70	60	136	121	99	99	127	112	95	77	(*)	86
Computer programmers II	85	74	65	60	122	100	84	(*)	163	141	115	115	146	130	107	88	(*)	91
Computer programmers III	97	86	73	73	144	119	100	82	191	163	140	126	161	145	116	100	101	105
Computer programmers IV	(*)	125	(*)	(*)	167	(*)	122	100	257	237	204	(*)	(*)	181	142	125	(*)	(*)
Computer operators I	54	44	38	37	74	61	52	39	100	83	70	68	83	77	68	55	(*)	58
Computer operators II	62	55	46	42	83	71	61	42	121	100	82	70	97	91	74	64	55	67
Computer operators III	74	66	56	50	101	87	72	49	142	122	100	77	(*)	103	80	69	63	83
Computer operators IV	(*)	77	64	57	101	87	80	(*)	146	143	130	100	(*)	113	91	77	81	93
Drafters II	63	53	44	50	78	68	62	(*)	120	103	(*)	(*)	100	86	69	57	(*)	(*)
Drafters III	71	61	52	48	89	77	69	55	129	110	97	89	116	100	82	68	71	76
Drafters IV	82	74	63	59	105	94	86	70	147	135	124	110	145	122	100	83	90	89
Drafters V	94	83	73	66	130	114	100	80	182	156	144	130	176	148	120	100	103	103
Electronics technicians III	108	101	83	74	(*)	(*)	99	(*)	(*)	181	158	123	(*)	141	112	98	100	111
Registered industrial nurses	104	89	75	67	117	110	96	(*)	172	148	120	108	(*)	131	113	97	90	100

See table A-8 for description of these pay relationships and appendix A for method of computation.

Also see footnotes at end of tables.

Table A-10. Pay relationships in establishments with paired maintenance, toolroom, and powerplant occupations, Minneapolis-St. Paul, MN-WI, February 1988

Occupation for which earnings are compared	Occupation for which average earnings equal 100												
	Carpenters	Electricians	Painters	Machinists	Maintenance mechanics (machinery)	Pipefitters	Millwrights	Motor vehicle mechanics	Maintenance workers (general)	Trades helpers	Machine-tool operators (toolroom)	Tool and die makers	Stationary engineers
Maintenance carpenters	**100**	96	103	98	96	(*)	(*)	114	(*)	162	(*)	(*)	108
Maintenance electricians	105	**100**	105	104	(*)	100	102	108	133	131	100	99	111
Maintenance painters	97	95	**100**	97	90	96	99	104	(*)	(*)	(*)	(*)	102
Maintenance machinists	102	96	103	**100**	101	(*)	(*)	101	108	126	(*)	97	103
Maintenance mechanics (machinery)	105	(*)	111	99	**100**	102	(*)	(*)	108	(*)	92	94	103
Maintenance pipefitters	(*)	100	104	(*)	98	**100**	(*)	(*)	(*)	(*)	(*)	(*)	107
Millwrights	(*)	98	101	(*)	(*)	(*)	**100**	(*)	(*)	(*)	(*)	(*)	(*)
Motor vehicle mechanics	87	84	96	99	(*)	(*)	(*)	**100**	111	(*)	(*)	(*)	102
General maintenance workers	(*)	75	(*)	93	92	(*)	(*)	90	**100**	(*)	(*)	83	82
Maintenance trades helpers	62	77	(*)	79	(*)	(*)	(*)	(*)	(*)	**100**	86	89	84
Machine-tool operators (toolroom)	(*)	100	(*)	(*)	108	(*)	(*)	(*)	(*)	117	**100**	77	101
Tool and die makers	(*)	101	(*)	103	107	(*)	(*)	(*)	121	144	131	**100**	110
Stationary engineers	93	90	98	97	97	93	(*)	98	122	119	99	91	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-11. Pay relationships in establishments with paired material movement and custodial occupations, Minneapolis-St. Paul, MN-WI, February 1988

Occupation for which earnings are compared	Occupation for which average earnings equal 100												
	Truckdrivers				Shippers	Receivers	Shippers and receivers	Warehouse-men	Order fillers	Shipping packers	Material handling laborers	Forklift operators	Janitors, porters, and cleaners
	Light truck	Medium truck	Heavy truck	Tractor-trailer									
Truckdrivers, light truck	**100**	(*)	83	(*)	(*)	(*)	144	114	(*)	(*)	107	(*)	148
Truckdrivers, medium truck	(*)	**100**	(*)	(*)	106	(*)	(*)	118	(*)	(*)	(*)	104	(*)
Truckdrivers, heavy truck	120	(*)	**100**	(*)	(*)	(*)	136	(*)	(*)	(*)	(*)	(*)	131
Truckdrivers, tractor-trailer	(*)	(*)	(*)	**100**	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	156
Shippers	(*)	94	(*)	(*)	**100**	100	104	100	104	107	106	100	109
Receivers	(*)	(*)	(*)	(*)	100	**100**	(*)	100	104	111	105	97	112
Shippers and receivers	69	(*)	73	(*)	**96**	(*)	**100**	(*)	(*)	(*)	99	102	124
Warehousemen	86	85	(*)	(*)	100	100	103	**100**	(*)	(*)	(*)	(*)	126
Order fillers	(*)	(*)	(*)	(*)	**96**	**96**	(*)	(*)	**100**	104	96	101	118
Shipping packers	(*)	(*)	(*)	(*)	94	90	(*)	(*)	96	**100**	(*)	88	106
Material handling laborers	93	(*)	(*)	(*)	94	95	101	(*)	104	(*)	**100**	95	116
Forklift operators	(*)	96	(*)	(*)	100	104	98	(*)	99	114	105	**100**	118
Janitors, porters, and cleaners	68	(*)	76	64	91	89	81	79	84	94	86	85	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	160 and under 185	185 – 210	210 – 235	235 – 260	260 – 285	285 – 310	310 – 335	335 – 360	360 – 385	385 – 410	410 – 435	435 – 460	460 – 485	485 – 510	510 – 535	535 – 560	560 – 585	585 – 610	610 – 635	635 – 660	660 and over
Secretarial and keyboarding occupations																										
Secretaries	4,423	39.5	389.00	373.00	334.50– 437.00	–	–	–	11	122	319	668	702	653	458	346	368	268	218	125	62	29	18	19	15	22
Manufacturing	2,813	39.5	388.00	375.00	336.00– 434.00	–	–	–	5	66	221	393	443	426	326	233	203	174	154	93	46	17	4	4	3	2
Nonmanufacturing	1,610	39.5	391.50	372.00	330.00– 441.50	–	–	–	6	56	98	275	259	227	132	113	165	94	64	32	16	12	14	15	12	20
Secretaries II	990	39.5	349.00	341.50	317.00– 374.00	–	–	–	4	58	81	297	199	59	72	39	79	1	1	–	–	–	–	–	–	–
Manufacturing	490	39.5	357.00	351.00	330.00– 379.50	–	–	–	–	8	31	104	140	108	47	33	17	1	1	–	–	–	–	–	–	–
Nonmanufacturing	500	39.0	341.00	324.50	311.50– 369.50	–	–	–	4	50	50	193	59	51	25	6	62	–	–	–	–	–	–	–	–	–
Secretaries III	1,363	39.5	369.00	360.00	340.00– 389.50	–	–	–	–	6	67	201	381	333	157	85	58	56	12	5	–	–	–	–	–	2
Manufacturing	740	40.0	365.50	360.00	338.00– 384.00	–	–	–	–	2	21	128	215	192	103	32	19	20	6	–	–	–	–	–	–	2
Nonmanufacturing	623	39.5	373.00	364.00	342.50– 398.00	–	–	–	–	4	46	73	166	141	54	53	39	36	6	5	–	–	–	–	–	–
Secretaries IV	975	40.0	429.00	420.00	387.50– 451.00	–	–	–	–	–	–	7	80	148	211	178	164	63	53	28	21	7	11	15	5	8
Nonmanufacturing	331	39.5	452.00	438.50	396.00– 488.50	–	–	–	–	–	–	7	28	33	48	39	55	24	33	18	10	4	11	13	4	8
Secretaries V	622	40.0	494.00	490.00	461.50– 515.00	–	–	–	–	–	–	–	2	4	17	43	66	148	152	92	41	22	7	4	10	14
Nonmanufacturing	142	40.0	514.00	489.50	461.50– 553.50	–	–	–	–	–	–	–	2	2	5	14	8	34	25	11	6	8	3	2	8	14
Stenographers	52	39.5	436.50	452.50	344.00– 508.50	–	–	–	1	1	8	2	2	–	–	–	20	–	7	8	3	–	–	–	–	–
Nonmanufacturing: Transportation and utilities	38	40.0	485.50	452.50	452.50– 524.00	–	–	–	–	–	–	–	–	–	–	–	20	–	7	8	3	–	–	–	–	–
Typists	189	38.5	273.00	255.00	203.50– 295.50	–	46	23	19	24	20	8	4	5	–	21	–	–	–	1	–	–	–	–	–	–
Nonmanufacturing	138	38.5	268.00	225.50	203.50– 294.50	–	46	23	11	19	10	4	3	–	–	21	–	–	–	1	–	–	–	–	–	–
Typists I	121	38.5	239.00	211.00	203.50– 267.50	–	46	23	15	17	11	3	2	4	–	–	–	–	–	–	–	–	–	–	–	–
Word processors	417	39.5	326.50	326.50	286.00– 363.50	–	–	50	18	31	70	79	60	39	23	23	17	6	1	–	–	–	–	–	–	–
Manufacturing	188	39.5	356.00	348.50	308.50– 399.50	–	–	–	5	7	36	29	32	22	17	19	14	6	1	–	–	–	–	–	–	–
Nonmanufacturing	229	40.0	302.00	303.50	254.00– 337.50	–	–	50	13	24	34	50	28	17	6	4	3	–	–	–	–	–	–	–	–	–
Word processors I	133	39.5	281.00	254.00	233.00– 320.00	–	–	50	18	6	19	14	11	6	5	3	1	–	–	–	–	–	–	–	–	–
Word processors II	284	39.5	347.50	336.50	307.50– 375.50	–	–	–	–	25	51	65	49	33	18	20	16	6	1	–	–	–	–	–	–	–
Manufacturing	148	39.5	369.00	363.00	325.50– 413.00	–	–	–	–	2	22	22	26	19	16	18	14	6	1	–	–	–	–	–	–	–
Nonmanufacturing	138	39.5	325.00	327.00	297.50– 350.00	–	–	–	–	23	29	43	23	14	2	2	2	–	–	–	–	–	–	–	–	–
Key entry operators	1,358	39.0	287.00	271.00	234.00– 319.00	1	3	336	252	186	189	152	90	43	34	37	1	–	31	3	–	–	–	–	–	–
Manufacturing	287	39.5	304.50	301.00	274.50– 330.00	–	–	36	15	44	65	64	30	13	6	14	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	1,071	38.5	282.50	257.50	230.50– 309.00	1	3	300	237	142	124	88	60	30	28	23	1	–	31	3	–	–	–	–	–	–
Transportation and utilities	90	40.0	419.00	426.00	345.00– 510.00	–	–	–	6	2	6	5	6	5	3	22	1	–	31	3	–	–	–	–	–	–
Key entry operators I	911	38.5	257.50	248.00	230.50– 276.50	1	3	333	234	160	105	49	17	2	3	1	–	–	3	–	–	–	–	–	–	–
Manufacturing	160	39.5	277.50	280.00	254.50– 306.00	–	–	36	15	38	40	24	6	–	1	–	–	–	–	–	–	–	–	–	–	–
Key entry operators II	447	39.5	346.50	333.00	304.50– 373.00	–	–	3	18	26	84	103	73	41	31	36	1	–	28	3	–	–	–	–	–	–
Manufacturing	127	39.5	338.00	330.00	310.50– 361.50	–	–	–	–	8	25	40	24	13	5	14	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	320	40.0	350.00	333.50	302.00– 385.50	–	–	3	18	20	59	63	49	28	26	22	1	–	28	3	–	–	–	–	–	–
Transportation and utilities	72	40.0	445.00	432.50	402.50– 510.00	–	–	–	–	–	–	4	6	5	3	22	1	–	28	3	–	–	–	–	–	–
Other clerical occupations																										
Accounting clerks	3,569	39.5	335.00	321.50	286.00– 375.00	–	11	65	260	538	609	517	507	285	262	238	141	26	17	18	62	12	1	–	–	–
Manufacturing	1,552	39.5	344.00	340.50	300.00– 385.00	–	–	3	73	180	256	229	233	212	179	125	53	15	7	6	–	–	1	–	–	–
Nonmanufacturing	2,017	39.5	328.50	311.50	275.50– 355.00	–	11	62	187	378	353	288	274	73	83	113	88	11	10	12	62	12	–	–	–	–
Transportation and utilities	509	40.0	406.50	421.50	339.00– 452.00	–	–	–	10	10	42	64	90	3	10	99	79	8	9	11	62	12	–	–	–	–

See footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[3]	160 and under 185	185 – 210	210 – 235	235 – 260	260 – 285	285 – 310	310 – 335	335 – 360	360 – 385	385 – 410	410 – 435	435 – 460	460 – 485	485 – 510	510 – 535	535 – 560	560 – 585	585 – 610	610 – 635	635 – 660	660 and over
Accounting clerks I	264	39.5	257.50	252.00	238.50– 274.00	–	6	45	117	61	20	13	1	1	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	132	40.0	271.00	267.50	252.00– 280.50	–	–	–	60	47	15	8	1	1	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	132	39.5	243.50	242.00	221.50– 255.00	–	6	45	57	14	5	5	–	–	–	–	–	–	–	–	–	–	–	–	–
Accounting clerks II	1,430	39.5	300.00	291.00	270.00– 320.50	–	1	17	142	406	384	226	164	27	7	44	11	1	1	–	–	–	–	–	–	–
Manufacturing	506	40.0	309.50	303.00	286.00– 325.00	–	–	3	13	102	176	102	67	20	6	17	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	924	39.5	295.00	288.00	265.00– 319.00	–	1	14	129	303	208	124	97	7	1	27	11	1	1	–	–	–	–	–	–	–
Accounting clerks III	1,163	39.5	349.00	342.50	314.00– 379.50	–	2	3	1	88	189	227	268	142	124	98	24	8	5	8	–	–	–	–	–	–
Manufacturing	513	39.5	356.50	352.00	324.50– 381.00	–	–	–	–	11	84	105	113	104	82	26	19	4	1	4	–	–	–	–	–	–
Nonmanufacturing	650	39.0	343.00	336.00	304.50– 371.00	–	2	3	1	57	125	122	155	38	82	72	5	2	4	2	–	–	–	–	–	–
Accounting clerks IV	712	39.5	412.50	400.50	367.00– 452.00	–	2	–	–	4	16	51	74	115	131	96	106	19	11	12	62	12	1	–	–	–
Manufacturing	401	39.5	396.50	394.50	370.50– 417.50	–	–	–	–	–	1	14	52	87	111	82	34	11	6	2	–	–	1	–	–	–
Nonmanufacturing	311	40.0	433.00	452.00	357.00– 521.50	–	2	–	–	4	15	37	22	28	20	14	72	8	5	10	62	12	–	–	–	–
Transportation and utilities	165	40.0	500.50	511.00	452.00– 547.00	–	–	–	–	–	–	–	–	1	–	5	67	5	4	9	62	12	–	–	–	–
Payroll clerks	290	39.5	352.50	339.00	292.00– 372.00	–	–	–	11	33	70	26	44	39	7	23	5	5	2	10	14	1	–	–	–	–
Manufacturing	105	40.0	367.50	360.00	303.00– 424.00	–	–	–	1	5	23	6	15	21	4	15	4	5	1	5	–	–	–	–	–	–
Nonmanufacturing	185	39.5	344.00	322.00	290.50– 383.00	–	–	–	10	28	47	20	29	18	3	8	1	–	1	5	14	1	–	–	–	–
Transportation and utilities	37	40.0	436.00	496.00	303.00– 547.00	–	–	–	2	4	5	1	1	–	–	5	–	–	1	3	14	1	–	–	–	–
File clerks	261	38.5	237.50	224.50	205.50– 254.50	12	60	93	36	24	26	1	2	3	–	–	–	–	1	3	–	–	–	–	–	–
Nonmanufacturing	234	38.5	233.00	224.50	204.50– 247.00	12	60	91	24	22	20	–	1	–	–	–	–	–	1	3	–	–	–	–	–	–
File clerks I	170	38.5	216.00	221.00	202.00– 226.50	12	59	74	18	5	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	157	38.5	212.50	221.00	191.00– 224.50	12	59	74	7	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
File clerks II	80	39.5	273.50	263.00	234.00– 290.00	–	1	19	17	18	21	–	–	3	–	–	–	–	–	3	–	–	–	–	–	–
Nonmanufacturing	68	39.5	271.00	263.00	230.50– 287.50	–	1	17	14	14	19	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–
Messengers	157	39.0	230.00	212.50	204.00– 239.00	2	73	38	20	13	3	–	–	3	–	–	3	–	1	–	1	–	–	–	–	–
Manufacturing	53	38.5	240.00	226.00	219.50– 244.50	–	3	26	15	5	1	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	104	39.5	225.00	204.50	196.00– 231.50	2	70	12	5	8	2	–	–	–	–	–	3	–	1	–	1	–	–	–	–	–
Order clerks	130	39.5	413.00	416.50	356.00– 466.00	1	1	2	–	2	1	12	14	7	14	27	16	15	4	7	5	–	2	–	–	–
Manufacturing	126	39.5	419.00	418.50	381.00– 466.00	–	–	1	–	2	–	12	14	7	14	27	16	15	4	7	5	–	2	–	–	–
Order clerks II	106	39.5	432.00	426.50	387.00– 472.00	–	–	–	–	–	–	3	10	7	14	26	16	14	4	5	5	–	2	–	–	–
Manufacturing	106	39.5	432.00	426.50	387.00– 472.00	–	–	–	–	–	–	3	10	7	14	26	16	14	4	5	5	–	2	–	–	–
Receptionists	188	40.0	295.00	291.00	260.00– 323.00	2	–	3	11	58	41	16	24	7	5	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	70	40.0	314.00	313.50	280.00– 350.00	–	–	–	3	16	15	10	20	4	2	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	98	39.5	281.00	285.50	260.00– 298.00	2	–	3	8	43	26	6	4	3	3	–	–	–	–	–	–	–	–	–	–	–
Switchboard operators	128	39.5	330.50	308.00	262.50– 357.50	–	2	4	18	21	20	14	21	4	–	3	2	1	18	–	–	–	–	–	–	–
Nonmanufacturing	88	40.0	340.00	308.50	260.50– 425.00	–	2	3	15	9	14	9	8	4	–	2	2	–	18	–	–	–	–	–	–	–
Switchboard operator-receptionists	227	39.5	281.00	283.00	263.00– 301.00	10	5	1	23	75	80	22	3	2	5	–	–	1	–	–	–	–	–	–	–	–
Manufacturing	94	40.0	290.50	296.00	266.50– 304.50	–	–	–	12	32	32	13	1	–	3	–	–	1	–	–	–	–	–	–	–	–
Nonmanufacturing	133	39.5	274.00	278.00	260.00– 294.50	10	5	1	11	43	48	9	2	2	2	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-13. Weekly earnings of professional and technical workers in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	Under 280	280 and under 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 880	880 – 920	920 and over
Computer systems analysts	2,277	39.5	688.50	687.50	604.50– 784.00	–	–	–	–	–	–	1	6	24	64	242	192	299	257	368	245	207	147	98	60	79
Manufacturing	772	39.5	736.50	734.00	639.50– 827.00	–	–	–	–	–	–	1	1	–	6	61	47	77	77	75	85	83	83	85	43	56
Nonmanufacturing	1,505	39.0	664.00	662.00	585.00– 733.50	–	–	–	–	–	–	–	5	24	58	181	145	222	180	283	160	114	64	31	17	21
Transportation and utilities	111	40.0	752.50	757.50	671.50– 848.00	–	–	–	–	–	–	–	–	1	3	4	3	3	18	18	7	15	8	13	8	10
Computer systems analysts I	536	39.0	573.50	582.00	537.50– 610.50	–	–	–	–	–	–	–	6	23	55	181	100	88	35	45	2	1	–	–	–	–
Manufacturing	132	39.5	578.00	585.50	548.00– 601.50	–	–	–	–	–	–	–	1	–	5	52	37	25	7	4	1	–	–	–	–	–
Nonmanufacturing	404	39.0	572.00	558.00	537.50– 622.00	–	–	–	–	–	–	–	5	23	50	129	63	63	28	41	1	1	–	–	–	–
Computer systems analysts II	921	39.0	663.50	655.50	614.50– 710.50	–	–	–	–	–	–	1	–	1	9	61	86	198	190	208	81	82	14	8	3	3
Manufacturing	267	39.5	686.50	684.50	639.50– 733.50	–	–	–	–	–	–	1	–	–	1	9	8	48	61	50	52	23	10	3	1	–
Nonmanufacturing	654	39.0	654.00	649.00	605.00– 699.00	–	–	–	–	–	–	–	–	1	8	52	78	148	129	158	29	59	4	5	2	3
Transportation and utilities	45	40.0	739.50	773.50	664.50– 822.00	–	–	–	–	–	–	–	–	1	3	4	2	1	2	–	5	13	4	5	2	3
Computer systems analysts III	668	39.5	769.00	767.50	724.50– 813.50	–	–	–	–	–	–	–	–	–	–	–	–	6	15	29	102	180	139	117	55	31	14
Manufacturing	250	39.5	799.50	798.50	781.50– 838.00	–	–	–	–	–	–	–	–	–	–	–	–	2	4	6	17	30	67	82	30	19	13
Nonmanufacturing	418	39.5	751.00	741.00	710.50– 787.00	–	–	–	–	–	–	–	–	–	–	–	–	4	11	23	85	130	72	55	25	12	1
Computer systems analysts IV	152	40.0	895.50	900.00	844.00– 957.50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	5	2	5	16	33	28	* 62
Manufacturing	123	40.0	889.00	896.50	846.00– 944.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	4	2	3	11	32	23	46
Computer programmers	2,183	39.0	556.00	530.00	480.00– 608.50	–	–	–	20	16	17	46	168	251	521	297	249	186	101	61	73	59	66	35	22	13
Manufacturing	805	40.0	639.00	617.50	549.00– 738.00	–	–	–	–	12	1	3	33	34	72	70	110	112	76	53	58	50	52	34	21	13
Nonmanufacturing	1,378	38.5	508.00	499.00	461.00– 553.00	–	–	–	20	4	16	43	135	217	449	227	139	56	25	8	14	9	14	1	1	–
Computer programmers I	299	39.5	437.50	416.00	400.00– 490.50	–	–	–	20	15	6	41	105	22	48	27	13	1	1	–	–	–	–	–	–	–
Manufacturing	74	40.0	435.50	422.50	407.50– 490.50	–	–	–	–	12	1	3	28	10	16	1	2	1	–	–	–	–	–	–	–	–
Nonmanufacturing	225	39.0	438.50	403.00	400.00– 499.00	–	–	–	20	3	5	38	77	12	32	26	11	–	1	–	–	–	–	–	–	–
Computer programmers II	985	38.5	507.00	499.00	471.00– 553.00	–	–	–	–	1	11	5	50	205	384	163	99	49	12	6	–	–	–	–	–	–
Manufacturing	182	40.0	531.50	525.00	484.50– 585.50	–	–	–	–	–	–	–	3	23	52	36	27	15	2	4	–	–	–	–	–	–
Computer programmers III	622	39.5	584.50	586.00	530.00– 626.00	–	–	–	–	–	–	–	13	24	89	107	137	115	80	29	19	5	4	–	–	–
Manufacturing	320	40.0	617.00	614.00	587.00– 651.00	–	–	–	–	–	–	–	2	1	4	33	81	96	66	24	10	2	1	–	–	–
Nonmanufacturing	302	39.0	550.00	536.50	503.50– 577.00	–	–	–	–	–	–	–	11	23	85	74	56	19	14	5	9	3	3	–	–	–
Computer programmers IV	277	40.0	796.00	795.00	743.00– 843.50	–	–	–	–	–	–	–	–	–	–	–	–	3	8	28	54	84	62	35	22	13
Computer operators	1,097	39.5	400.50	384.00	345.00– 442.00	27	38	66	117	147	128	106	186	106	61	49	43	10	11	–	2	–	–	–	–	–
Manufacturing	628	39.5	394.50	381.50	345.00– 430.50	2	22	39	74	90	78	67	117	61	33	26	12	7	–	–	–	–	–	–	–	–
Nonmanufacturing	469	39.5	408.00	391.00	343.50– 458.50	25	16	27	43	57	50	39	69	45	28	23	31	3	11	–	2	–	–	–	–	–
Transportation and utilities	115	40.0	491.50	484.50	432.50– 562.50	–	–	–	–	2	12	7	26	9	4	16	26	–	11	–	–	–	–	–	–	–
Computer operators I	80	39.5	318.00	321.00	298.00– 336.00	* * 11	10	18	24	7	6	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators II	460	39.5	360.50	354.50	325.50– 388.50	18	28	48	68	107	52	58	51	17	13	2	–	–	–	–	–	–	–	–	–	–
Manufacturing	253	39.5	363.00	353.00	327.50– 385.50	2	15	29	38	66	28	29	19	15	11	1	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	207	39.5	358.00	356.50	324.50– 392.00	14	13	19	30	41	24	29	32	2	2	1	–	–	–	–	–	–	–	–	–	–
Computer operators III	442	40.0	432.00	418.50	375.50– 471.00	–	–	–	25	33	70	42	109	63	23	34	30	2	11	–	–	–	–	–	–	–
Manufacturing	244	40.0	408.50	404.50	367.00– 434.50	–	–	–	17	21	48	33	74	27	5	18	2	1	–	–	–	–	–	–	–	–
Nonmanufacturing	198	40.0	461.00	448.50	391.00– 529.50	–	–	–	8	12	24	9	35	36	18	16	28	1	11	–	–	–	–	–	–	–
Transportation and utilities	71	40.0	526.00	562.50	448.50– 576.00	–	–	–	–	–	8	–	4	8	3	11	26	–	11	–	–	–	–	–	–	–
Computer operators IV	115	39.5	495.50	483.50	441.00– 541.00	–	–	–	–	–	–	4	24	26	25	13	13	8	–	–	2	–	–	–	–	–
Drafters	839	40.0	513.00	509.00	437.50– 576.00	–	1	–	17	20	35	42	99	116	126	136	81	58	58	32	14	4	–	–	–	–
Manufacturing	812	40.0	514.00	509.00	438.50– 576.00	–	1	–	15	19	31	40	98	115	121	135	78	57	53	32	13	4	–	–	–	–

See footnotes at end of tables.

Table A-13. Weekly earnings of professional and technical workers in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[2]	Median[2]	Middle range[2]	Under 280	280 and under 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 880	880 – 920	920 and over
Drafters III	166	40.0	408.00	403.00	378.50– 434.50	–	–	–	14	13	19	29	58	22	10	–	1	–	–	–	–	–	–	–	–	–
Manufacturing	158	40.0	405.50	403.00	378.50– 434.00	–	–	–	12	13	19	27	57	22	7	–	1	–	–	–	–	–	–	–	–	–
Drafters IV	307	40.0	514.50	509.00	457.00– 558.50	–	–	–	–	–	8	10	28	67	63	65	27	16	10	11	2	–	–	–	–	–
Manufacturing	294	40.0	515.50	509.00	459.50– 558.50	–	–	–	–	–	4	10	28	66	61	62	24	16	10	11	2	–	–	–	–	–
Drafters V	331	40.0	580.00	570.00	523.00– 640.50	–	–	–	–	–	–	–	2	25	53	73	53	42	46	21	12	4	–	–	–	–
Manufacturing	326	40.0	579.00	569.50	521.50– 635.00	–	–	–	–	–	–	–	2	25	53	73	53	41	43	21	11	4	–	–	–	–
Electronics technicians	1,870	40.0	533.50	521.00	452.50– 607.00	–	–	–	1	7	37	68	232	317	267	231	208	172	148	135	42	5	–	–	–	–
Manufacturing	1,838	40.0	530.50	518.00	452.50– 602.00	–	–	–	1	7	37	68	232	317	267	231	208	172	148	106	39	5	–	–	–	–
Electronics technicians I	229	40.0	412.50	411.00	387.50– 434.00	–	–	–	1	7	31	46	90	46	7	1	–	–	–	–	–	–	–	–	–	–
Manufacturing	229	40.0	412.50	411.00	387.50– 434.00	–	–	–	1	7	31	46	90	46	7	1	–	–	–	–	–	–	–	–	–	–
Electronics technicians III	739	40.0	618.50	622.00	585.00– 669.00	–	–	–	–	–	–	–	–	3	56	108	115	159	148	106	39	5	–	–	–	–
Manufacturing	739	40.0	618.50	622.00	585.00– 669.00	–	–	–	–	–	–	–	–	3	56	108	115	159	148	106	39	5	–	–	–	–
Registered industrial nurses	60	40.0	560.50	549.00	525.50– 608.00	–	–	–	–	–	–	1	–	3	9	22	8	14	3	–	–	–	–	–	–	–

* Workers were distributed as follows: 26 at $920 to $960; 23 at $960 to $1,000; 9 at $1,000 to $1,040; 2 at $1,040 to $1,080; and 2 at $1,080 and over.

* * Workers were distributed as follows: 6 at $240 to $280; and 5 at $280 to $290.

Also see footnotes at end of tables.

Table A-14. Average weekly earnings of office, professional, and technical workers, by sex in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988

Sex,[1] occupation, and industry division	Number of workers	Average (mean[2])	
		Weekly hours[3] (standard)	Weekly earnings (in dollars)[2]
Office occupations - women			
Secretaries:			
Nonmanufacturing	1,403	39.5	389.50
Secretaries II:			
Nonmanufacturing	479	39.0	342.50
Secretaries III	1,249	39.5	370.50
Manufacturing	710	40.0	387.00
Nonmanufacturing	539	38.5	375.00
Secretaries IV	886	40.0	429.00
Typists	132	39.0	283.50
Nonmanufacturing	110	39.0	279.00
Typists I	98	38.5	247.00
Nonmanufacturing	85	38.5	239.50
Word processors	393	39.5	325.50
Manufacturing	178	39.5	357.50
Nonmanufacturing	215	39.5	298.50
Word processors I	128	39.5	277.00
Word processors II	265	39.5	349.00
Manufacturing	137	39.5	371.50
Nonmanufacturing	128	39.5	324.50
Key entry operators	1,230	39.0	280.50
Manufacturing	251	39.5	302.00
Nonmanufacturing	979	38.5	275.50
Key entry operators I	847	38.5	256.50
Manufacturing	138	39.5	273.00
Key entry operators II	383	39.5	334.00
Manufacturing	113	39.5	337.00
Nonmanufacturing	270	39.5	333.00
Accounting clerks:			
Accounting clerks I:			
Nonmanufacturing	114	39.5	243.00
Accounting clerks II	1,255	39.5	299.00
Manufacturing	396	40.0	308.50
Nonmanufacturing	859	39.5	295.00
Payroll clerks	251	39.5	345.50
Manufacturing	92	40.0	376.00
Nonmanufacturing	159	39.5	328.00
File clerks	231	38.5	231.00
Nonmanufacturing	208	38.5	226.00
File clerks I	188	38.5	216.00
Nonmanufacturing	155	38.0	212.50
File clerks II	57	39.5	262.50
Messengers	118	39.0	229.00
Nonmanufacturing	77	39.5	220.50
Order clerks	114	39.5	409.50
Manufacturing	110	39.5	416.50
Order clerks II	91	39.5	429.00
Manufacturing	91	39.5	429.00
Receptionists	150	40.0	293.50
Manufacturing	64	40.0	317.00
Nonmanufacturing	86	39.5	276.50
Switchboard operator-receptionists	222	39.5	280.50
Manufacturing	94	40.0	290.50
Nonmanufacturing	128	39.5	273.50
Professional and technical occupations - men			
Computer systems analysts:			
Nonmanufacturing	800	39.0	671.50
Computer systems analysts I:			
Manufacturing	66	39.5	582.50
Computer systems analysts II:			
Nonmanufacturing	348	39.0	649.50
Computer systems analysts III	408	39.5	767.50
Nonmanufacturing	250	39.0	748.00
Computer systems analysts IV	117	40.0	905.50
Computer programmers	1,185	39.0	573.50
Manufacturing	500	40.0	675.00
Computer programmers II	541	38.5	502.00
Computer programmers III:			
Nonmanufacturing	140	39.0	537.50
Computer operators:			
Computer operators III:			
Manufacturing	147	40.0	407.50
Drafters:			
Drafters III	117	40.0	408.00
Manufacturing	112	40.0	409.50
Drafters IV:			
Manufacturing	224	40.0	528.50
Electronics technicians	1,471	40.0	532.00
Manufacturing	1,471	40.0	532.00
Electronics technicians III	614	40.0	614.50
Manufacturing	614	40.0	614.50
Professional and technical occupations - women			
Computer systems analysts:			
Computer systems analysts I:			
Manufacturing	80	39.5	572.50
Computer programmers:			
Computer programmers II	389	38.5	505.50
Computer programmers III:			
Nonmanufacturing	135	38.5	534.50
Registered industrial nurses	53	40.0	580.50

See footnotes at end of tables.

Table A-15. Hourly earnings of maintenance, toolroom, and powerplant workers in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																						
		Mean[1]	Median[1]	Middle range[1]	7.00 and under 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 12.50	12.50 – 13.00	13.00 – 13.50	13.50 – 14.00	14.00 – 14.50	14.50 – 15.00	15.00 – 15.50	15.50 – 16.00	16.00 – 16.50	16.50 – 17.00	17.00 – 17.50	17.50 – 18.00	18.00 and over
Maintenance carpenters	120	15.31	15.58	14.78–16.17	–	–	–	–	–	–	–	–	–	2	–	3	16	6	1	14	9	12	31	20	4	2	–
Manufacturing	81	15.15	15.58	14.85–16.17	–	–	–	–	–	–	–	–	–	2	–	–	9	5	1	14	6	12	31	–	–	–	–
Maintenance electricians	522	15.45	14.85	14.44–16.39	–	–	–	–	–	–	–	–	–	–	2	6	2	6	209	44	23	30	148	3	4	19	26
Manufacturing	500	15.38	14.85	14.44–16.39	–	–	–	–	–	–	–	–	–	–	2	6	2	6	209	44	23	26	147	2	4	13	16
Maintenance painters	77	15.44	15.89	15.89–16.01	–	–	–	–	–	–	–	–	–	–	1	9	2	–	2	3	–	35	22	–	–	2	1
Manufacturing	62	15.23	15.89	14.85–15.89	–	–	–	–	–	–	–	–	–	–	1	9	2	–	2	3	–	33	12	–	–	–	–
Maintenance machinists	473	15.35	15.99	14.21–15.99	–	–	–	–	–	–	–	–	–	–	1	9	9	81	26	79	1	210	26	–	2	–	27
Manufacturing	459	15.29	15.99	14.21–15.99	–	–	–	–	–	–	–	–	–	–	1	9	9	79	26	79	1	209	26	–	–	–	18
Maintenance mechanics (machinery)	780	14.11	13.71	13.71–15.23	–	–	–	–	–	–	–	–	1	2	59	9	30	443	14	7	131	51	10	3	3	17	–
Manufacturing	741	13.98	13.71	13.71–14.77	–	–	–	–	–	–	–	–	1	–	59	9	30	441	14	6	131	50	–	–	–	–	–
Maintenance pipefitters	233	15.60	14.85	14.85–16.34	–	–	–	–	–	–	–	–	–	–	–	–	–	10	4	110	–	–	100	–	–	1	8
Manufacturing	224	15.45	14.85	14.85–16.34	–	–	–	–	–	–	–	–	–	–	–	–	–	10	4	110	–	–	100	–	–	–	–
Millwrights	198	15.76	15.94	15.94–16.17	–	–	–	–	–	–	–	–	–	–	–	7	4	–	1	5	12	98	69	–	–	–	–
Manufacturing	198	15.76	15.94	15.94–16.17	–	–	–	–	–	–	–	–	–	–	–	7	4	–	1	5	12	98	69	–	–	–	–
Motor vehicle mechanics	238	14.31	15.44	12.39–16.15	–	–	–	3	16	3	6	9	6	4	15	1	–	23	21	10	28	8	40	39	–	–	6
Manufacturing	86	14.23	13.86	12.43–14.73	–	–	–	–	–	–	–	–	–	2	15	1	–	22	4	8	–	8	–	–	–	–	6
Nonmanufacturing	172	14.34	15.44	11.38–16.15	–	–	–	3	16	3	6	9	6	2	–	–	–	1	17	2	28	–	40	39	–	–	–
Transportation and utilities	134	14.20	16.15	10.50–16.97	–	–	–	3	15	3	6	9	6	–	–	–	–	–	13	–	–	–	40	39	–	–	–
General maintenance workers	262	12.21	12.10	10.26–13.68	3	3	1	8	7	18	31	6	20	30	26	6	9	29	–	41	11	3	–	8	–	–	–
Manufacturing	167	12.64	12.10	11.60–13.68	–	–	–	–	1	1	17	4	15	29	27	2	8	24	–	31	5	3	–	8	–	–	–
Nonmanufacturing	95	11.45	10.30	9.86–14.72	3	3	1	8	6	17	14	2	5	1	1	4	1	5	–	10	6	–	–	8	–	–	–
Maintenance trades helpers	88	10.25	11.66	7.02–12.87	24	1	–	3	–	–	5	–	–	2	4	29	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	59	10.23	11.66	7.02–12.87	24	–	–	–	–	–	4	–	–	2	–	29	–	–	–	–	–	–	–	–	–	–	–
Machine-tool operators (toolroom)	79	12.34	14.15	7.83–14.61	–	24	–	–	–	–	–	–	–	–	–	2	4	9	16	18	4	–	2	–	–	–	–
Manufacturing	79	12.34	14.15	7.83–14.61	–	24	–	–	–	–	–	–	–	–	–	2	4	9	16	18	4	–	2	–	–	–	–
Tool and die makers	352	16.10	17.02	15.31–17.02	–	–	–	–	–	–	–	4	–	–	4	4	–	–	17	42	42	29	5	21	183	–	1
Manufacturing	352	16.10	17.02	15.31–17.02	–	–	–	–	–	–	–	4	–	–	4	4	–	–	17	42	42	29	5	21	183	–	1
Stationary engineers	153	14.71	14.40	13.71–15.87	–	–	–	–	–	–	–	–	–	–	2	19	–	29	31	26	–	24	4	5	–	13	–
Manufacturing	65	14.75	14.89	13.71–15.87	–	–	–	–	–	–	–	–	–	–	1	4	–	17	1	18	–	24	–	–	–	–	–
Nonmanufacturing	88	14.67	14.06	13.82–15.73	–	–	–	–	–	–	–	–	–	–	1	15	–	12	30	8	–	–	4	5	–	13	–

See footnotes at end of tables.

Table A-16. Hourly earnings of material movement and custodial workers in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																				
		Mean[2]	Median[2]	Middle range[2]	4.00 and under 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00
Truckdrivers	1,503	14.62	15.44	13.73–15.44	–	–	–	–	1	3	–	–	–	6	3	9	93	7	7	158	41	57	277	700	–	–	141
Manufacturing	380	14.40	12.19	11.88–18.68	–	–	–	–	–	–	–	–	–	5	–	9	1	7	7	154	29	32	1	–	–	–	141
Truckdrivers, light truck	274	14.80	18.68	10.00–18.68	–	–	–	–	–	–	–	–	–	5	3	9	74	1	7	13	6	15	–	–	–	–	141
Truckdrivers, tractor-trailer	398	14.93	14.82	14.82–15.69	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	22	12	210	150	–	–	–
Shippers	124	11.73	13.34	8.96–13.34	–	–	–	–	–	–	–	6	4	29	–	2	–	7	–	5	2	55	14	–	–	–	–
Manufacturing	97	11.42	13.34	8.96–13.34	–	–	–	–	–	–	–	6	1	29	–	1	–	5	–	–	1	54	–	–	–	–	–
Receivers	100	10.91	11.53	8.74–13.48	–	2	3	1	1	3	3	5	4	3	6	3	4	3	4	12	12	31	–	–	–	–	–
Manufacturing	52	10.94	11.53	9.51–12.53	–	–	–	–	–	2	–	4	3	–	4	3	4	–	3	12	11	6	–	–	–	–	–
Shippers and receivers	245	9.32	8.64	6.48–12.92	–	6	9	36	13	15	29	3	1	12	13	5	–	15	21	1	35	2	28	1	–	–	–
Nonmanufacturing	101	10.52	10.92	9.24–14.30	–	6	9	–	1	3	5	–	–	–	12	1	–	15	19	1	–	–	28	1	–	–	–
Warehousemen	1,216	12.94	14.21	10.48–15.02	–	–	–	–	–	1	6	24	12	6	8	122	161	64	26	–	101	45	78	582	–	–	–
Manufacturing	285	11.04	10.12	9.93–12.09	–	–	–	–	–	–	–	–	2	6	3	118	21	–	26	–	95	7	9	–	–	–	–
Order fillers	533	11.42	11.71	10.52–12.17	3	6	18	3	–	6	6	1	39	–	2	7	2	126	–	114	114	–	–	66	–	–	–
Manufacturing	397	11.15	11.71	10.52–12.17	–	–	–	–	–	–	–	1	36	–	2	6	–	124	–	114	114	–	–	–	–	–	–
Shipping packers	274	10.25	10.66	10.32–10.66	–	–	–	–	6	6	–	–	48	–	–	–	55	106	10	1	42	–	–	–	–	–	–
Manufacturing	274	10.25	10.66	10.32–10.66	–	–	–	–	6	6	–	–	48	–	–	–	55	106	10	1	42	–	–	–	–	–	–
Material handling laborers	475	10.96	10.67	10.39–11.38	–	–	–	–	–	1	12	5	16	7	3	30	138	83	78	27	53	3	–	–	–	–	19
Manufacturing	480	10.93	10.67	10.39–11.38	–	–	–	–	–	–	12	5	16	7	2	29	137	83	78	27	45	–	–	–	–	–	19
Forklift operators	553	12.39	12.84	11.41–12.84	1	–	1	1	1	–	–	–	–	–	–	–	13	44	113	62	197	54	50	16	–	–	–
Manufacturing	451	12.01	11.88	11.41–12.84	–	–	–	–	–	–	–	–	–	–	–	–	13	44	113	62	197	22	–	–	–	–	–
Guards	575	10.60	10.68	9.55–11.41	–	–	–	–	9	10	14	19	30	29	26	15	68	107	125	–	62	43	17	1	–	–	–
Manufacturing	433	10.99	11.07	10.68–11.48	–	–	–	–	–	4	4	–	6	14	18	14	48	107	125	–	62	31	1	1	–	–	–
Nonmanufacturing	142	9.43	8.63	7.80–10.05	–	–	–	–	9	6	10	19	24	15	10	1	20	–	–	–	–	12	16	–	–	–	–
Guards I	469	10.58	10.68	10.14–11.07	–	–	–	–	9	9	12	16	20	14	18	14	44	107	125	–	38	43	1	1	–	–	–
Manufacturing	405	10.89	10.83	10.14–11.38	–	–	–	–	–	4	4	–	6	14	18	14	44	107	125	–	38	31	1	1	–	–	–
Nonmanufacturing	64	8.52	7.84	7.01– 8.08	–	–	–	–	9	5	8	16	14	–	–	–	–	–	–	–	–	12	–	–	–	–	–
Guards II	106	10.69	10.05	8.78–12.70	–	–	–	–	–	1	2	3	10	15	10	1	24	–	–	–	24	–	16	–	–	–	–
Janitors, porters, and cleaners	6,017	6.26	5.30	4.90– 6.44	253	1847	1751	208	493	105	61	170	68	100	84	42	374	59	169	74	131	28	–	–	–	–	–
Manufacturing	1,037	10.05	10.32	9.15–11.21	–	–	–	9	40	31	26	9	28	74	65	35	367	59	142	70	79	3	–	–	–	–	–
Nonmanufacturing	4,980	5.47	5.13	4.89– 5.30	253	1847	1751	199	453	74	35	161	40	26	19	7	7	–	27	4	52	25	–	–	–	–	–
Transportation and utilities	130	11.41	12.20	10.08–12.26	–	–	–	–	–	–	–	–	–	17	7	7	7	–	19	4	44	25	–	–	–	–	–

See footnotes at end of tables.

Table A-17. Average hourly earnings of maintenance, toolroom, powerplant, material movement and custodial workers by sex in establishments employing 500 workers or more in Minneapolis-St. Paul, MN-WI, February 1988

Sex,[4] occupation, and industry division	Number of workers	Average (mean[2]) hourly earnings (in dollars)[3]
Maintenance, toolroom, and powerplant occupations - men		
Maintenance carpenters	108	15.56
Manufacturing	79	15.19
Maintenance electricians	511	15.45
Manufacturing	490	15.36
Maintenance painters	76	15.43
Manufacturing	61	15.21
Maintenance machinists	470	15.35
Manufacturing	457	15.29
Maintenance mechanics (machinery)	760	14.08
Manufacturing	731	13.97
Maintenance pipefitters	231	15.59
Manufacturing	222	15.44
Millwrights	195	15.76
Manufacturing	195	15.76
Motor vehicle mechanics:		
Manufacturing	66	14.23
General maintenance workers	241	12.20
Manufacturing	152	12.56
Nonmanufacturing	89	11.57
Maintenance trades helpers	63	10.30
Machine-tool operators (toolroom)	79	12.34
Manufacturing	79	12.34
Tool and die makers	321	16.21
Manufacturing	321	16.21
Stationary engineers	148	14.65
Manufacturing	65	14.75
Nonmanufacturing	83	14.57
Material movement and custodial occupations - men		
Truckdrivers:		
Manufacturing	378	14.45
Truckdrivers, light truck	270	14.85
Shippers	94	11.80
Manufacturing	75	11.35
Receivers	80	11.13
Shippers and receivers	164	10.07
Manufacturing	82	8.81
Nonmanufacturing	82	11.34
Warehousemen	1,147	13.06
Manufacturing	249	11.16
Order fillers	376	12.17
Manufacturing	267	11.46
Material handling laborers	355	11.13
Manufacturing	341	11.10
Forklift operators	512	12.43
Manufacturing	410	12.02
Guards	493	10.49
Manufacturing	375	11.01
Nonmanufacturing	118	8.85
Guards I	412	10.58
Manufacturing	350	10.92
Nonmanufacturing	62	8.68
Guards II	81	10.03
Janitors, porters, and cleaners:		
Manufacturing	746	9.96
Material movement and custodial occupations - women		
Order fillers	157	9.61
Guards:		
Manufacturing	58	10.85
Guards I	56	10.68
Manufacturing	55	10.75

See footnotes at end of tables.

Footnotes

Some of these standard footnotes may not apply to this bulletin.

[1] Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included.

[3] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—one-half of the workers receive the same as or more and one-half receive the same as or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same as or less than the lower of these rates and one-fourth earn the same as or more than the higher rate.

[4] Earnings data relate only to workers whose sex identification was provided by the establishment.

[5] Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

[6] Data do not meet publication criteria or data not available.

Appendix A. Scope and Method of Survey

In January 1987, the Bureau began to phase in a new 90-area program to replace the 70-area program that had produced annual surveys since July 1974. When the new plan is fully implemented in 1990, 32 of the areas will be surveyed annually, and two groups of 29 areas will be surveyed in alternate years. (For a full discussion of the change, see Laura Scofea, "BLS Area Wage Surveys Will Cover More Areas," *Monthly Labor Review*, June 1986, pp. 19-23.)

In each area surveyed,[1] the Bureau obtains wages and related benefits data from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Government operations and the construction and extractive industries are excluded. Small establishments—generally those with fewer than 50 employees—are excluded because they have few incumbents in the occupations studied. Appendix table 1 shows the number of establishments and workers estimated to be within the scope of this survey, as well as the number actually studied.

In the 32 areas surveyed annually, Bureau field representatives obtain data by personal visits at 3-year intervals. In intervening years, only information on employment and occupational earnings is collected by a combination of personal visit, mail questionnaire, and telephone interview from establishments participating in the previous survey.

In the two groups of 29 areas that are surveyed in alternate years, Bureau field representatives obtain data for a given area by personal visits if the previous data for the area were obtained primarily by mail and telephone. Thus, in a 4-year period, an area that was surveyed by personal visit the first year will have no survey in the second, a mail and telephone survey in the third, and none in the fourth. As with annual surveys, information on establishment practices and employee benefits is presented only for surveys conducted by personal visits; when information is collected primarily by mail and telephone, only information on employment and earnings is presented.

A sample of the establishments in the scope of the survey is selected for study prior to each personal visit survey. This sample, minus establishments which go out of business or are no longer within the industrial scope of the survey, is retained until the next personal visit survey is conducted. In most cases, establishments new to the area are not considered in the scope of the survey until the selection of a sample for a personal visit survey.

The sampling procedures involve detailed stratification by industry and number of employees of all establishments within the scope of a survey. From this stratified universe, a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of 4 to represent itself plus three others. If data are not available for an establishment originally selected, the weights of other similar establishments are increased to account for the missing unit.

Occupations and earnings

Occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) Office clerical; (2) professional and technical; (3) maintenance, toolroom, and powerplant; and (4) material movement and custodial. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. Occupations selected for study are listed and described in appendix B, along with corresponding occupational codes and titles from the 1980 edition of the *Standard Occupational Classification Manual*.

Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within the scope of the survey, are not presented in the A-series tables because either (1) data were insufficient to provide meaningful statistical results, or (2) there is a possibility of disclosure of individual establishment data. Earnings data not shown separately for industry divisions are included in data for all industries combined.

Separate data for men and women are not presented when the number of workers not identified by sex is 20 percent or more of the men or women identified in an occupation. Likewise, data are not presented for an occupational level when the number of workers not identified by level is 20 percent or more of the number identified at that level. Data are included in estimates for men and women combined or an overall occupation when sex or level identification is not available.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included. Weekly hours for office clerical and professional and technical occupations refer to the standard workweek (rounded to the nearest half hour) for which employees receive regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). Average weekly earnings for these occupations are rounded to the nearest half dollar. Some A-series tables provide distributions of workers by earnings; changes in the size of earnings intervals are indicated by heavy vertical lines.

These surveys measure the level of occupational earnings in an area at a particular time. Changes in an occupational average over time reflect, in addition to earnings changes, factors such as changes in proportions of workers employed by high- or low-wage firms, or high-wage workers advancing to better jobs and being replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increased wages since the last survey. Changes in earnings of occupational groups, shown in table A-7, are better indicators of wage trends than are earnings changes for individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges (only the rates paid incumbents are collected) and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

Wage trends for selected occupational groups

Indexes in table A-7 measure wages at a given time expressed as a percent of wages during the base period. Subtracting 100 from the index yields the percent change in wages from the base period to the date of the index. The percent increases in table A-7 relate to wage changes between the indicated dates. Annual rates of increase, where shown, reflect the amount of increase for 12 months when the time span between surveys was other than 12 months. These computations are based on the assumption that wages increased at a constant rate between surveys.

The indexes and percent increases are based on changes in average hourly earnings of men and women in establishments reporting the jobs listed below in both the current and previous year (matched establishments). The data are adjusted to remove the effect on average earnings of employment shifts among establishments and turnover of establishments included in survey samples. The percent increases, however, are still affected by factors other than wage increases. Turnover may affect an establishment average for an occupation when workers are paid under plans providing a range of wage rates for individual jobs. In periods of increased hiring, for example, new employees may enter at the bottom of the range, depressing the average without a change in wage rates.

Occupations used to compute wage trends are:

Office clerical

Secretaries
Stenographers I and II
Typists I and II
Key entry operators I and II
Accounting clerks I, II, III, and IV
Payroll clerks
File clerks I, II, and III
Messengers
Order clerks I and II
Switchboard operators

Electronic data processing

Computer systems analysts I, II, III, and IV
Computer programmers I, II, III, and IV
Computer operators I, II, III, and IV

Industrial nurses

Registered industrial nurses

Skilled maintenance

Carpenters
Electricians
Painters
Machinists
Mechanics (machinery)
Pipefitters
Motor vehicle mechanics
Tool and die makers

Unskilled plant

Janitors, porters, and cleaners
Material handling laborers

Percent changes for individual areas in the program are computed as follows:

1. Each occupation is assigned a weight based on its proportion of employment in the occupational group in the earlier of the two years being compared. If for example, 1,000 workers were reported in the skilled maintenance group in the earlier year and 200 of these workers were painters, the weight assigned to painters would be 0.20. Using a constant employment weight dampens the effects of employment shifts on wage change measures.

2. Average earnings are computed for each occupation for the 2 years being compared. Earnings are used only from matched establishments; that is, establishments that are in the survey both years.
3. Group averages are computed by multiplying the weight of each occupation (step 1) by the occupation's average earnings for each year (step 2). The products are totaled to obtain group averages.
4. The ratio of group averages for 2 consecutive years is computed by dividing the average for the current year by the average for the earlier year. The result—expressed as a percent—less 100 is the percent change.

Pay relationships in establishments

Tables A-8 through A-11 compare average pay of occupations in individual establishments. These comparisons, expressed as pay relatives (pay for one of the occupations equals 100), differ from comparisons of overall survey averages, such as those shown in tables A-1 through A-6. The latter reflect differences in contributions to the survey averages by establishments with disparate pay levels; the pay relative comparisons are not affected by such differences. The following procedures are used to compute relatives in tables A-8 through A-11:

1. Establishments employing workers in both of the paired occupations were identified.
2. Pay levels (averages) for the two occupations were weighted by the combined employment of both jobs to reflect each establishment's contribution to the totals used in this comparison.
3. The weighted pay levels of the two jobs were summed separately; each total was divided by the other and the quotients multiplied by 100 to produce the two pay relatives shown for each job pairing.

Establishment practices and employee benefits

Tabulations on selected establishment practices and employee benefits (B-series tables) are not presented in this bulletin. In this area, information for these tabulations is collected at 3-year intervals. These tabulations on minimum entrance salaries for inexperienced office workers; shift differentials; scheduled weekly hours and days; paid holidays; paid vacations; insurance, health, and retirement plans; and other selected benefits are presented (in the B-series tables) in a previous bulletin for this area.

[1]The Bureau also conducts more limited area studies in over 100 areas at the request of the Employment Standards Administration of the U.S. Department of Labor.

Appendix table 1. Establishments and workers within scope of survey and number studied in Minneapolis-St. Paul, MN-WI,[1] February 1968

Industry division[2]	Minimum employment in establishments in scope of survey	Number of establishments		Workers in establishments		
		Within scope of survey[3]	Studied	Within scope of survey[4]		Studied
				Number	Percent	
All establishments						
All divisions	-	1,402	222	510,719	100	235,334
Manufacturing	100	375	86	192,524	38	106,613
Nonmanufacturing	-	1,027	156	318,195	62	128,721
Transportation, communication, and other public utilities[5]	100	72	26	45,419	9	38,469
Wholesale trade[6]	50	185	18	28,541	6	8,212
Retail trade[6]	100	106	24	70,112	14	38,833
Finance, insurance, and real estate[6]	50	201	29	69,290	14	21,579
Services[6 7]	50	464	59	103,830	20	23,828
Large establishments						
All divisions	-	245	91	334,186	100	210,119
Manufacturing	500	77	34	132,532	40	100,256
Nonmanufacturing	-	168	57	201,663	60	109,863
Transportation, communication, and other public utilities[5]	500	10	8	34,154	10	32,154
Wholesale trade[6]	500	5	4	7,821	2	5,824
Retail trade[6]	500	30	16	56,936	17	36,867
Finance, insurance, and real estate[6]	500	53	14	49,836	15	19,982
Services[6 7]	500	70	15	54,104	16	15,336

[1] The Minneapolis-St. Paul, MN-WI Metropolitan Statistical Area, as defined by the Office of Management and Budget through October 1964, consists of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Washington, and Wright Counties, MN; and St. Croix County, WI. The "workers within scope of survey" estimates provide a reasonably accurate description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison with other statistical series to measure employment trends or levels since (1) planning of wage surveys requires establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

[2] The 1972 edition of the *Standard Industrial Classification Manual* was used to classify establishments by industry division. All government operations are excluded from the scope of the survey.

[3] Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of nonmanufacturing companies are considered as one establishment when located within the same industry division.

[4] Includes all workers in all establishments with total employment (within the area) at or above the minimum limitation.

[5] Abbreviated to "transportation and utilities" in the A-series tables. Taxicabs and services incidental to water transportation are excluded.

[6] Separate data for this division are not presented in the A-series tables, but the division is represented in the "all industries" and "nonmanufacturing" estimates.

[7] Hotels and motels; laundries and other personal services; business services; automobile repair, rentals, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits grouping of occupational wage rates representing comparable job content. Because of this emphasis on comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives are instructed to exclude working supervisors; apprentices; and part-time, temporary, and probationary workers. Handicapped workers whose earnings are reduced because of their handicap are also excluded. Learners, beginners, and trainees, unless specifically included in the job description, are excluded.

The titles and numerical codes below the job titles in this appendix are taken from the 1980 edition of the *Standard Occupational Classification Manual* (SOC), issued by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards.

In general, the Bureau of Labor Statistics' occupational descriptions are much more specific than those found in the SOC manual. The BLS occupation, "Registered Industrial Nurse," for example, is limited to workers providing medical assistance and other related services (e.g., health education) to persons who are ill or become ill or suffer an injury in a factory or other establishment. The SOC occupation (code 29) includes a variety of registered nurses (e.g., school nurse, head nurse, general duty nurse, private duty nurse) that are excluded from the BLS description.

Thus, in comparing the results of this survey with other sources, factors such as differences in occupational definitions and survey scope should be taken into consideration.

Office

SECRETARY

(4622: Secretary)

Provides principal secretarial support in an office, usually to one individual, and, in some cases, also to the subordinate staff of that individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor and staff. Works fairly independently, receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and an understanding of the organization, programs, and procedures related to the work of the office.

Exclusions. Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

a. Clerks or secretaries working under the direction of secretaries or administrative assistants as described in e;
b. Stenographers not fully performing secretarial duties;
c. Stenographers or secretaries assigned to two or more professional, technical, or managerial persons of equivalent rank;
d. Assistants or secretaries performing any kind of technical work, e.g., personnel, accounting, or legal work;
e. Administrative assistants or supervisors performing duties which are more difficult or more responsible than the secretarial work described in LR-1 through LR-4;
f. Secretaries receiving additionall pay primarily for maintaining confidentiality of payroll records or other sensitive information;
g. Secretaries performing routine receptionist, typing, and filing duties following detailed instructions and guidelines; these duties are less responsible than those described in LR-1 below;
h. Trainees.

Classification by level. Secretary jobs which meet the required characteristics are matched at one of five levels according to two factors: (a) Level of the secretary's supervisor within the overall organizational structure, and (b) level of the secretary's responsibility. The table following the explanations of these factors indicates the level of the secretary for each combination of factors.

Level of Secretary's Supervisor (LS)

Secretaries should be matched at one of the three LS levels below best describing the organization of the secretary's supervisor.

LS-1

Organizational structure is not complex and internal procedures and administrative controls are simple and informal; supervisor directs staff through face-to-face meetings.

LS-2

Organizational structure is complex and is divided into subordinate groups that usually differ from each other as to subject matter, function, etc.; supervisor usually directs staff through intermediate supervisors; internal procedures and administrative controls are formal. An entire organization (e.g., division, subsidiary, or parent organization) may contain a variety of subordinate groups which meet the LS-2 definition. Therefore, it is not unusual for one LS-2 supervisor to report to another LS-2 supervisor.

The presence of subordinate supervisors does not by itself mean LS-2 applies, e.g., a clerical processing organization divided into several units, each performing very similar work, is placed in LS-1.

In smaller organizations or industries such as retail trade, with relatively few organizational levels, the supervisor may have an impact on the policies and major programs of the entire organization, and may deal with important outside contacts, as described in LS-3.

LS-3

Organizational structure is divided into two or more subordinate supervisory levels (of which at least one is a managerial level) with several subdivisions at each level. Executive's program(s) are usually interlocked on a direct and continuing basis with other major organizational segments, requiring constant attention to extensive formal coordination, clearances, and procedural controls. Executive typically has: Financial decisionmaking authority for assigned program(s); considerable impact on the entire organization's financial position or image; and responsibility for, or has staff specialists in, such areas as personnel and administration for assigned organization. Executive plays an important role in determining the policies and major programs of the entire organization, and spends considerable time dealing with outside parties actively interested in assigned program(s) and current or controversial issues.

Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor or staff, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at the level best describing their level of responsibility. When a position's duties span more than one LR level, the introductory paragraph at the beginning of each LR level should be used to determine which of the levels best matches the position. (Typically, secretaries performing at the higher levels of responsibility also perform duties described at the lower levels.)

LR-1

Carries out recurring office procedures independently. Selects the guideline or reference which fits the specific case. Supervisor provides specific instructions on new assignments and checks completed work for accuracy. Performs varied duties including or comparable to the following:

a. Responds to routine telephone requests which have standard answers; refers calls and visitors to appropriate staff. Controls mail and assures timely staff response; may send form letters;
b. As instructed, maintains supervisor's calendar, makes appointments, and arranges for meeting rooms;
c. Reviews materials prepared for supervisor's approval for typographical accuracy and proper format;
d. Maintains recurring internal reports, such as: Time and leave records, office equipment listings, correspondence controls, training plans, etc.;
e. Requisitions supplies, printing, maintenance, or other services. Types, takes and transcribes dictation, and establishes and maintains office files.

LR-2

Handles differing situations, problems, and deviations in the work of the office according to the supervisor's general instructions, priorities, duties, policies, and program goals. Supervisor may assist secretary with special assignments. Duties include or are comparable to the following:

a. Screens telephone calls, visitors, and incoming correspondence; personally responds to requests for information concerning office procedures; determines which requests should be handled by the supervisor, appropriate staff member, or other offices. May prepare and sign routine, nontechnical correspondence in own or supervisor's name;
b. Schedules tentative appointments without prior clearance. Makes arrangements for conferences and meetings and assembles established background materials, as directed. May attend meetings and record and report on the proceedings;
c. Reviews outgoing materials and correspondence for internal consistency and conformance with supervisor's procedures; assures that proper clearances have been obtained, when needed;
d. Collects information from the files or staff for routine inquiries on office program(s) or periodic reports. Refers nonroutine requests to supervisor or staff;
e. Explains to subordinate staff supervisor's requirements concerning office procedures. Coordinates personnel and administrative forms for the office and forwards for processing.

LR-3

Uses greater judgment and initiative to determine the approach or action to take in nonroutine situations. Interprets and adapts guidelines, including unwritten policies, precedents, and practices, which are not always completely applicable to changing situations. Duties include or are comparable to the following:

a. Based on a knowledge of the supervisor's views, composes correspondence on own initiative about administrative matters and general office policies for supervisor's approval;
b. Anticipates and prepares materials needed by the supervisor for conferences, correspondence, appointments, meetings, telephone calls, etc;, and informs supervisor on matters to be considered;
c. Reads publications, regulations, and directives and takes action or refers those that are important to the supervisor and staff;
d. Prepares special or one-time reports, summaries, or replies to inquiries, selecting relevant information from a variety of sources such as reports, documents, correspondence, other offices, etc., under general direction;
e. Advises secretaries in subordinate offices on new procedures; requests information needed from the subordinate office(s) for periodic or special conferences, reports, inquiries, etc. Shifts clerical staff to accommodate workload needs.

LR-4

Handles a wide variety of situations and conflicts involving the clerical or administrative functions of the office which often cannot be brought to the attention of the executive. The executive sets the overall objectives of the work. Secretary may participate in developing the work deadlines. Duties include or are comparable to the following:

a. Composes correspondence requiring some understanding of technical matters; may sign for executive when technical or policy content has been authorized;
b. Notes commitments made by executive during meetings and arranges for staff implementation. On own initiative, arranges for staff member to represent organization at conferences and meetings, establishes appointment priorities, or reschedules or refuses appointments or invitations;
c. Reads outgoing correspondence for executive's approval and alerts writers to any conflict with the file or departure from policies or executive's viewpoints; gives advice to resolve the problems;
d. Summarizes the content of incoming materials, specially gathered information, or meetings to assist executive; coordinates the new information with background office sources; draws attention to important parts or conflicts;
e. In the executive's absence, ensures that requests for action or information are relayed to the appropriate staff member; as needed, interprets request and helps implement action; makes sure that information is furnished in timely manner; decides whether executive should be notified of important or emergency matters.

Exclude secretaries performing any of the following duties:

Acts as office manager for the executive's organization, e.g., determines when new procedures are needed for changing situations and devises and implements alternatives; revises or clarifies procedures to eliminate conflict or duplication; identifies and resolves various problems that affect the orderly flow of work in transactions with parties outside the organization.

Prepares agenda for conferences; explains discussion topics to participants; drafts introductions and develops background information and prepares outlines for executive or staff member(s) to use in writing speeches.

Advises individuals outside the organization on the executive's views on major policies or current issues facing the organization; contacts or responds to contacts from high-ranking outside officials (e.g., city or State officials, members of Congress, presidents of national unions or large national or international firms, etc.) in unique situations. These officials may be relatively inaccessible, and each contact typically must be handled differently, using judgment and discretion.

Criteria For Matching Secretaries By Level

Level of Secretary's Supervisor	Level of Secretary's Responsibility			
	LR-1	LR-2	LR-3	LR-4
LS-1	I	II	III	IV
LS-2	I	III	IV	V
LS-3	I	IV	V	V

STENOGRAPHER

(4623: Stenographer)

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool. May occasionally transcribe from voice recordings.

Excluded from this definition are:

a. Trainee positions not requiring a fully qualified stenographer;
b. Secretaries providing the principal secretarial support in an office and performing more responsible and discretionary tasks, as described in LR-1 through LR-4 in the secretary definition above;
c. Stenographers who take dictation involving the frequent use of a wide variety of technical or specialized vocabulary. Typically this kind of vocabulary cannot be learned in a relatively short period of time, e.g., a month or two;
d. Stenographers, such as shorthand reporters, who record material verbatim at hearings, conferences, or similar proceedings.

Stenographer I

Takes and transcribes dictation, receiving specific assignments along with detailed instructions on such requirements as form and presentation. The transcribed material is typically reviewed in rough draft, and the final transcription is reviewed for conform-

ance with the rough draft. May maintain files, keep simple records, or perform other relatively routine clerical tasks.

Stenographer II

Takes and transcribes dictation determining the most appropriate format. Performs stenographic duties requiring significantly greater independence and responsibility than Stenographer I. Supervisor typically provides general instructions. Work requires a thorough working knowledge of general business and office procedures and of the specific business operations, organizations, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining follow-up files; assembling material for reports, memoranda, and letters; composing simple letters from general instructions; reading and routing incoming mail; answering routine questions, etc.

TYPIST

(4624: Typist)

Uses a manual, electric, or automatic typewriter to type various materials. Included are automatic typewriters that are used only to record text and update and reproduce previously typed items from magnetic cards or tape. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Excluded from this definition is work that involves:

a. Typing directly from spoken material that has been recorded on disks, cylinders, belts, tapes, or other similar media;
b. The use of varitype machines, composing equipment, or automatic equipment in preparing material for printing; and
c. Familiarity with specialized terminology in various keyboard commands to manipulate or edit the recorded text to accomplish revisions, or to perform tasks such as extracting and listing items from the text, or transmitting text to other terminals, or using "sort" commands to have the machine reorder material. Typically requires the use of automatic equipment which may be either computer linked or have a programmable memory so that material can be organized in regularly used formats or preformed paragraphs which can then be coded and stored for future use in letters or documents.

Typist I

Performs *one or more of the following:* Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

Typist II

Performs *one or more of the following:* Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

WORD PROCESSOR

(4624: Typist)

Primary duty is to operate word-processing equipment to enter, store, retrieve, change, and present text or tabulations. Produces a variety of printed copy such as letters, documents, or reports. May enter regularly used formats or stored paragraphs that are organized and coded for future use. Recorded texts can be changed by rearranging paragraphs, replacing words, shifting lines, etc.

(Word-processing equipment typically has a full- or partial-page video-display screen (CRT) and a separate printer. The equipment may be integrated with a digital computer, have telecommunications capabilities, and also have capabilities for adding to or upgrading features. Automatic or electronic typewriters with limited text-editing capabilities, and often with single-line electronic display "windows," are not considered word-processing equipment.)

Excluded from this definition are:

a. Workers whose primary function is to enter a data base for purposes other than composition (see key entry operator);
b. Workers who use equipment and data base for purposes such as accounting, inventory control, sales, or original writing and editing;
c. Workers responsible for preparation of published reports, including page layout or selection of different type sizes.

Positions are classified into levels on the basis of the following definitions:

Word Processor I

Performs tasks requiring a knowledge of the word-processing equipment and familiarity with the formats and forms used in the establishment. Proficiency in grammar, spelling, and punctuation is also required to produce printed materials accurately. May refer problems to supervisor or higher level processor, or refer to operating manual.

Word Processor II

Work at this level requires considerable classroom or on-the-job training and may involve working directly with task originator rather than through supervisor. In addition to work assignments described for level I, duties include *one or more of the following:*

a. Uses the more sophisticated features of the equipment to carry out complex assignments, such as sorting, merging, and organizing text, or maintaining files;
b. Applies knowledge of specialized terminology or foreign language;
c. Tests new applications and procedures; or
d. Trains lower level processors.

KEY ENTRY OPERATOR

(4793: Data entry keyer)

Operates keyboard-controlled data entry device such as keypunch machine or key-operated magnetic tape or disk encoder to transcribe data into a form suitable for computer processing. Work requires skill in operating an alphanumeric keyboard and an understanding of transcribing procedures and relevant data entry equipment.

Positions are classified into levels on the basis of the following definitions:

Key Entry Operator I

Work is routine and repetitive. Under close supervision or following specific procedures or detailed instructions, works from various standardized source documents which have been coded and require little or no selecting, coding, or interpreting of data to be entered. Refers to supervisor problems arising from erroneous items, codes, or missing information.

Key Entry Operator II

Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be entered from a variety of source documents. On occasion may also perform routine work as described for level I.

NOTE: Excluded are operators above level II using the key entry controls to access, read, and evaluate the substance of specific records to take substantive actions, or to make entries requiring a similar level of knowledge.

ACCOUNTING CLERK

(4712: Bookkeeper and accounting and auditing clerk)

Performs one or more accounting tasks such as posting to registers and ledgers; balancing and reconciling accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying the clerical accuracy of various types of reports, lists, calculations, postings, etc.; preparing journal vouchers; or making entries or adjustments to accounts.

Levels I and II require a basic knowledge of routine clerical methods and office practices and procedures as they relate to the clerical processing and recording of transactions and accounting information. Levels III and IV require a knowledge and understanding of the established and standardized bookkeeping and accounting procedures and techniques used in an accounting system, or a segment of an accounting system, where there are few variations in the types of transactions handled. In addition, some jobs at each level may require a basic knowledge and understanding of the terminology, codes, and processes used in an automated accounting system.

Accounting Clerk I

Performs very simple and routine accounting clerical operations, for example, recognizing and comparing easily identified numbers and codes on similar and repetitive accounting documents, verifying mathematical accuracy, and identifying discrepancies and bringing them to the supervisor's attention. Supervisor gives clear and detailed instructions for specific assignments. Employee refers to supervisor all matters not covered by instructions. Work is closely controlled and reviewed in detail for accuracy, adequacy, and adherence to instructions.

Accounting Clerk II

Performs one or more routine accounting clerical operations, such as: Examining, verifying, and correcting accounting transactions to ensure completeness and accuracy of data and proper identification of accounts, and checking that expenditures will not exceed obligations in specified accounts; totaling, balancing, and reconciling collection vouchers; posting data to transaction sheets where employee identifies proper accounts and items to be posted; and coding documents in accordance with a chart (listing) of accounts. Employee follows specific and detailed accounting procedures. Completed work is reviewed for accuracy and compliance with procedures.

Accounting Clerk III

Uses a knowledge of double entry bookkeeping in performing one or more of the following: Posts actions to journals, identifying subsidiary accounts affected and debit and credit entries to be made and assigning proper codes; reviews computer printouts against manually maintained journals, detecting and correcting erroneous postings, and preparing documents to adjust accounting classifications and other data; or reviews lists of transactions rejected by an automated system, determining reasons for rejections, and preparing necessary correcting material. On routine assignments, employee selects and applies established procedures and techniques. Detailed instructions are provided for difficult or unusual assignments. Completed work and methods used are reviewed for technical accuracy.

Accounting Clerk IV

Maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: Reviews invoices and statements (verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit, determining accounts involved, coding transactions, and processing material through data processing for application in the accounting system); and/or analyzes and reconciles computer printouts with operating unit reports (contacting units and researching causes of discrepancies, and taking action to ensure that accounts balance). Employee resolves problems in recurring assignments in accordance with previous training and experience. Supervisor provides suggestions for handling unusual or nonrecurring transactions. Conformance with requirements and technical soundness of completed work are reviewed by the supervisor or are controlled by mechanisms built into the accounting system.

NOTE: Excluded from level IV are positions responsible for maintaining either a general ledger or a general ledger in combination with subsidiary accounts.

PAYROLL CLERK

(4713: Payroll and timekeeping clerk)

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves *most of the following*: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a nonautomated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

FILE CLERK

(4696: File clerk)

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions:

File Clerk I

Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

File Clerk II

Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

File Clerk III

Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

MESSENGER

(4745: Messenger)

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening mail, distributing mail on a regularly scheduled route or in a familiar area, and other minor clerical work. May deliver mail that requires some special handling, e.g., mail that is insured, registered, or marked for special delivery.

Excluded are positions which include any of the following as significant duties:

a. Operating motor vehicles;
b. Delivering valuables or security-classified mail when the work requires a continuing knowledge of special procedures for handling such items;
c. Weighing mail, determining postage, or recording and controlling registered, insured, and certified mail in the mail room;
d. Making deliveries to unfamiliar or widely separated buildings or points which are not part of an established route; or
e. Directing other workers.

ORDER CLERK

(4664: Order clerk)

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgment of receipt of order; following up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order.

Exclude workers paid on a commission basis or whose duties include any of the following: Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

Positions are classified into levels according to the following definitions:

Order Clerk I

Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

Order Clerk II

Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

RECEPTIONIST

(4645: Receptionist)

Greets visitors, determines nature of visits, and directs visitors to appropriate persons. Receptionist duties may also include providing information, making appointments, answering a telephone (other than switchboard or console), keeping a log of visitors, and issuing visitor passes. May also perform typing or other routine clerical duties which may occupy a major portion of time, and are usually performed at the reception desk.

This classification excludes workers operating a telephone switchboard or console, performing guard duties, or performing more difficult clerical duties.

SWITCHBOARD OPERATOR

(4732: Telephone operator)

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, may also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard operator-receptionist.

SWITCHBOARD OPERATOR-RECEPTIONIST

(4645: Receptionist)

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

Professional and Technical

NOTE: The following descriptions for computer systems analysts, programmers, and operators are derived from job descriptions developed for the National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC). For the most part, they are comparable to the PATC descriptions for systems analysts and programmers levels I to IV and computer operators levels I to III. The level IV computer operator description is comparable to the combined levels IV, V, and VI PATC descriptions.

COMPUTER SYSTEMS ANALYST

(171:Computer systems analyst)

Analyzes business or scientific problems for resolution through electronic data processing. Gathers information from users, defines work problems, designs a system of computer programs and procedures to resolve the problems, and develops complete specifications (precise descriptions) to enable computer programmers to prepare required programs. May write the computer programs.

NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.

Excluded are:

a. Trainees who receive detailed directives and work plans, select authorized procedures for use in specific situations, and seek assistance for deviations and problems;

b. Positions which require a bachelor's degree in a specific scientific field (other than computer science); however, positions are potential matches where the required degree may be from any of several possible scientific fields;

c. Workers who primarily analyze and evaluate problems concerning computer equipment or its selection or utilization;

d. Computer systems analysts dealing primarily with system software which provides basic services for processing other work; however, positions matching this definition may develop a "total package" which includes not only analyzing work problems to be processed but also selecting the computer equipment and system software;

e. Top technical experts above level IV who develop broad unprecedented computer systems and/or conduct critical studies central to the success of large organizations having extensive technical or highly diversified computer requirements; and

f. Supervisors responsible for, or participating in hiring, firing, curtailing projects, reorganizing, or reallocating resources.

Positions are classified into levels on the basis of the following definitions:

Computer Systems Analyst I

Initial assignments are designed to expand practical experience in applying systems analysis techniques and procedures. Works independently carrying out factfinding and analysis of a single activity or routine problem. Applies established procedures where nature of system, feasibility, computer equipment, and programming language have already been decided. Adapts guides to specific situations. May solve routine user problems by modifying the existing system following clear precedents.

Supervisor defines objectives, priorities, and deadlines. Obtains advice where precedents are unclear or not available.

May direct technicians and others who assist in specific assignments.

Computer Systems Analyst II

Works independently developing or modifying a system of several varied sequences or formats where the nature of the system is predetermined. Recognizes probable interaction of related computer systems and predicts impact of a change in assigned system.

Typical duties include reviewing project proposals; gathering facts; analyzing data; preparing project synopses comparing alternatives; preparing specifications for programs; resolving processing problems; coordinating work with programmers; and orienting users.

Work requires competence in most phases of systems analysis and knowledge of system software and work processes.

May direct lower level analysts on assigned work. *OR*

Works on a segment of a complex data processing system as described for level III. Works independently on routine assignments and receives instruction and guidance on complex assignments.

Computer Systems Analyst III

Works independently maintaining and modifying complex systems or developing new subsystems. Systems typically input data from diverse sources and have multiple users.

Typical duties include guiding users in formulating requirements; analyzing project proposals; arbitrating conflicts between users; recommending optimum approach; and developing systems design. May serve as lead analyst directing and integrating the work of one or two lower level analysts.

Computer Systems Analyst IV

As a team or project leader, provides complete systems design in a highly complex area. The systems design establishes the framework from feasibility studies to post-implementation evaluation. May serve as the technical authority for a design area. At least one team member performs work at level III. *AND/OR*

As a staff specialist or consultant, resolves unique and unyielding systems problems using new technology. May be assisted on project by other analysts or technicians.

COMPUTER PROGRAMMER

(397:Programmer)

Converts specifications (precise descriptions) of business or scientific problems into a sequence of detailed instructions to solve the problems by digital computer. Draws program flow charts to describe the processing of data and develops the precise steps and processing logic which, when entered into the computer in coded language, cause the manipulation of data to achieve desired results. Tests and corrects programs and prepares instructions for operators who control the computer during production runs. Modifies programs to increase operating efficiency or to respond to changes in work processes; maintains records to document program development and revisions.

NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.

Excluded are:

a. Positions which require a bachelor's degree in a specific scientific field (other than computer science); however, positions are potential matches where the required degree may be from any of several possible scientific fields;
b. Workers who primarily analyze and evaluate problems concerning computer equipment or its selection or utilization;
c. Computer programmers (e.g., systems programmers) dealing primarily with system software which provides basic services for processing other work; however, positions matching this definition may develop a "total package" which includes not only analyzing work problems to be processed but also selecting the computer equipment and system software;
d. Employees with significant responsibility for supervising workers other than programmers or functions other than computer programming;
e. Supervisors responsible for, or participating in hiring, firing, curtailing projects, reorganizing, or reallocating resources; and
f. Team leaders and consultants above level IV who define highly complex programming problems and direct the development of computer programs for their solution, *AND/OR*
Team leaders and consultants who design improvements for highly complex programming problems where few precedents exist.

Positions are classified into levels on the basis of the following definitions:

Computer Programmer I

Receives classroom and/or on-the-job training in computer programming concepts and requirements of the subject-matter field. Performs elementary programming tasks such as drawing flow charts, writing operator instructions, or coding and testing simple programs.

Detailed step-by-step instructions are given; work is closely monitored in progress and reviewed in detail upon completion. Deviations must be authorized by supervisor.

May perform routine programming tasks as described in level II under close supervision. Also may perform elementary factfinding concerning a specific work process.

Computer Programmer II

Maintains and modifies routine programs. Work progresses from initial assignments designed to develop competence to work requiring a knowledge of established procedures and data processing requirements. Typical tasks include amending flow charts; coding, testing, and documenting changes; and writing routine new programs.

May evaluate simple interrelationships in programs and obtain information from users to modify routine programs.

Assignments have clear-cut and complete specifications and the format of the final product is very similar to that of the inputs. Work is monitored in progress and reviewed upon completion.

Computer Programmer III

As a fully qualified computer programmer, develops, modifies, and maintains conventional programs. Uses standard procedures and detailed specifications to independently devise program logic (may include translating mathematical notation), modify interrelationship of files and records, diagnose and correct errors, test and document work, and write computer operator instructions. The programs developed are typically linked to several other programs, with a variety of input records and varied formats produced in the output.

In addition, may analyze a single activity or routine problem when the nature of the programs, feasibility, and type of computer language and equipment have already been determined. Completed work is reviewed for conformance to standards, timeliness, and efficiency. May also guide or instruct lower level programmers, technicians, and others who assist on assignments. *OR*

Under close supervision, works on complex programs as described in level IV.

Computer Programmer IV

As an expert programmer, independently develops, modifies, and maintains complex programs which produce several interrelated but different products. Programs use data from diverse sources and have multiple users. Tests, documents, and writes operating instructions for all work.

May perform programming analysis such as investigating the feasibility of developing alternate programs, assisting users in defining needs, or participating on an EDP and user team working on large and complicated programs.

Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. May function as team leader of a few lower level programmers or technicians on assigned work.

COMPUTER OPERATOR

(4612:Computer operator)

Monitors and operates the control console of either a main-frame digital computer or a group of mini-computers, in accordance with operating instructions, to process data. Work is characterized by the following:

- Studies operating instructions to determine equipment setup needed;
- Loads equipment with required items (tapes, cards, paper, etc.);
- Switches necessary auxiliary equipment into system;
- Starts and operates console;
- Diagnoses and corrects equipment malfunctions;
- Reviews error messages and makes corrections during operation or refers problems;
- Maintains operating record.

May test run new or modified programs and assist in modifying systems or programs. Included within the scope of this definition are fully qualified computer operators, trainees working to become fully qualified operators, and lead operators providing technical assistance to lower level positions.

Excluded are:

a. Workers operating small computer systems where there is little or no opportunity for operator intervention in program processing and few requirements to correct equipment malfunctions;
b. Peripheral equipment operators and remote terminal or computer operators who do not run the control console of either a main-frame digital computer or a group of mini-computers (see peripheral equipment operator); and
c. Workers using the computer for scientific, technical, or mathematical work when a knowledge of the subject matter is required.

Positions are classified into levels on the basis of the following definitions:

Computer Operator I

Receives on-the-job training in operating the control console (sometimes augmented by classroom training). Works under close personal supervision and is provided detailed written or oral guidance before and during assignments. As instructed, resolves common operating problems. May serve as an assistant operator working under close supervision or performing a portion of a more senior operator's work.

Computer Operator II

Processes scheduled routines which present few difficult operating problems (e.g., infrequent or easily resolved error conditions). In response to computer output instructions or error conditions, applies standard operating or corrective procedure. Refers problems which do not respond to preplanned procedure. May serve as an assistant operator, working under general supervision.

Computer Operator III

Processes a range of scheduled routines. In addition to operating the system and resolving common error conditions, diagnoses and acts on machine stoppage and error conditions not fully covered by existing procedures and guidelines (e.g., resetting switches and other controls or making mechanical adjustments to maintain or restore equipment operations). In response to computer output instructions or error conditions, may deviate from standard procedures if standard procedures do not provide a solution. Refers problems which do not respond to corrective procedures.

Computer Operator IV

Resolves a variety of nonstandard problems (e.g., frequent new programs, applications, and procedures). Problems may require unusual equipment connections and channel configurations. May also provide technical assistance to lower level operators and use knowledge of program languages, computer features, and software systems in assisting programmers, systems analysts, and other users in resolving problems. Completed work is usually submitted to users without supervisory review.

PERIPHERAL EQUIPMENT OPERATOR

(4613: Peripheral equipment operator)

Operates peripheral equipment which directly supports digital computer operations. Such equipment is uniquely and specifically designed for computer applications, but need not be physically or electronically connected to a computer. Printers, plotters, card read/punches, tape readers, tape units or drives, disk units or drives, and data display units are examples of such equipment.

The following duties characterize the work of a peripheral equipment operator:

a. Loading printers and plotters with correct paper; adjusting controls for forms, thickness, tension, printing density, and location; and unloading hard copy;
b. Labeling tape reels, disks, or card decks;
c. Checking labels and mounting and dismounting designated tape reels or disks on specified units or drives;
d. Setting controls which regulate operation of the equipment;
e. Observing panel lights for warnings and error indications and taking appropriate action;
f. Examining tapes, cards, or other material for creases, tears, or other defects which could cause processing problems.

This classification excludes workers (1) who monitor and operate a control console (see Computer operator) or a remote terminal, or (2) whose duties are limited to operating decollaters, bursters, separators, or similar equipment.

COMPUTER DATA LIBRARIAN

(4696: File clerk)

(4754: Stock and inventory clerk)

Maintains library of media (tapes, disks, cards, cassettes) used for automatic data processing applications. The following or similar duties characterize the work of a computer data librarian: Classifying, cataloging, and storing media in accordance with a standardized system; upon proper requests, releasing media for processing; maintaining records of releases and returns; inspecting returned media for damage or excessive wear to determine whether or not they need replacing. May perform minor repairs to damaged tapes.

DRAFTER

(372: Drafting occupation)

Performs drafting work requiring knowledge and skill in drafting methods, procedures, and techniques. Prepares drawings of structures, mechanical and electrical equipment, piping and duct systems and other similar equipment, systems, and assemblies. Uses recognized systems of symbols, legends, shadings, and lines having specific meanings in drawings. Drawings are used to communicate engineering ideas, designs, and information in support of engineering functions.

The following are excluded when they constitute the primary purpose of the job:

a. Design work requiring the technical knowledge, skill, and ability to conceive or originate designs;
b. Illustrating work requiring artistic ability;
c. Work involving the preparation of charts, diagrams, room arrangements, floor plans, etc.;
d. Cartographic work involving the preparation of maps or plats and related materials, and drawings of geological structures; and
e. Supervisory work involving the management of a drafting program or the supervision of drafters.

Positions are classified into levels on the basis of the following definitions:

Drafter I

Working under close supervision, traces or copies finished drawings, making clearly indicated revisions. Uses appropriate templates to draw curved lines. Assignments are designed to develop increasing skill in various drafting techniques. Work is spot-checked during progress and reviewed upon completion.

NOTE: Exclude drafters performing elementary tasks while receiving training in the most basic drafting methods.

Drafter II

Prepares drawings of simple, easily visualized parts of equipment from sketches or marked-up prints. Selects appropriate templates and other equipment needed to complete assignments. Drawings fit familiar patterns and present few technical problems. Supervisor provides detailed instructions on new assignments, gives guidance when questions arise, and reviews completed work for accuracy.

Drafter III

Prepares various drawings of parts and assemblies, including sectional profiles, irregular or reverse curves, hidden lines, and small or intricate details. Work requires use of most of the conventional drafting techniques and a working knowledge of the terms and procedures of the industry. Familiar or recurring work is assigned in general terms; unfamiliar assignments include information on methods, procedures, sources of information, and precedents to be followed. Simple revisions to existing drawings may be assigned with a verbal explanation of the desired results; more complex revisions are produced from sketches which clearly depict the desired product.

Drafter IV

Prepares complete sets of complex drawings which include multiple views, detail drawings, and assembly drawings. Drawings include complex design features that require considerable drafting skill to visualize and portray. Assignments regularly require the use of mathematical formulas to compute weights, load capacities, dimensions, quantities of materials, etc. Working from sketches and verbal information supplied by an engineer or designer, determines the most appropriate views, detail drawings, and supplementary information needed to complete assignments. Selects required information from precedents, manufacturers' catalogs, and technical guides. Independently resolves most of the problems encountered. Supervisor or designer may suggest methods of approach or provide advice on unusually difficult problems.

NOTE: Exclude drafters performing work of similar difficulty to that described at this level but who provide support for a variety of organizations which have widely differing functions or requirements.

Drafter V

Works closely with design originators, preparing drawings of unusual, complex or original designs which require a high degree of precision. Performs unusually difficult assignments requiring considerable initiative, resourcefulness, and drafting expertise. Assures that anticipated problems in manufacture, assembly, installation, and operation are resolved by the drawings produced. Exercises independent judgment in selecting and interpreting data based on a knowledge of the design intent. Although working primarily as a drafter, may occasionally perform engineering design work in interpreting general designs prepared by others or in completing missing design details. May provide advice and guidance to lower level drafters or serve as coordinator and planner for large and complex drafting projects.

ELECTRONICS TECHNICIAN

(3711: Electrical and electronic engineering technologist and technician)
(615: Electrical and electronic equipment repairer)

Works on various types of electronic equipment and related devices by performing one or a combination of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment—consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit—includes, but is not limited to, the following: (a) Electronic transmitting and receiving equipment (e.g., radar, radio, television, telephone, sonar, navigational aids), (b) digital and analog computers, and (c) industrial and medical measuring and controlling equipment.

This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose primary duty is servicing electronic test instruments; technicians who have administrative or supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions:

Electronics Technician I

Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., multimeters, audio signal generators, tube testers, oscilloscopes). Is not required to be familiar with the interrelationships of circuits. This knowledge, however, may be acquired through assignments designed to increase competence (including classroom training) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot-checked, but is given detailed review when new or advanced assignments are involved.

Electronics Technician II

Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically *can* be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting tools and testing instruments, usually less complex than those used by the level III technician.

Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide technical guidance to lower level technicians.

Electronics Technician III

Applies advanced technical knowledge to solve unusually complex problems (i.e., those that typically *cannot* be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include location and density of circuitry, electromagnetic radiation, isolating malfunctions, and frequent engineering changes. Work involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., dual trace oscilloscopes, Q-meters, deviation meters, pulse generators).

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

REGISTERED INDUSTRIAL NURSE

(29: Registered nurse)

A registered nurse gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve *a combination of the following*: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

Maintenance, Toolroom, and Powerplant

MAINTENANCE CARPENTER

(6422: Carpenter)

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves *most of the following*: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE ELECTRICIAN

(615: Electrical and electronic equipment repairer)
(6432: Electrician)

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves *most of the following*: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE PAINTER

(6442: Painter, construction and maintenance)

Paints and redecorates walls, woodwork, and fixtures of an establishment. Work *involves the following*: Knowledge of surface peculiarities and types of paint required for different applications; preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MACHINIST

(613: Industrial machinery repairer)

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves *most of the following*: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MECHANIC (MACHINERY)

(613: Industrial machinery repairer)

Repairs machinery or mechanical equipment of an establishment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shops; reassembling machines; and making all necessary adjustments for operation. In general, the work of a machinery maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

MAINTENANCE PIPEFITTER

(645: Plumber, pipefitter, and steamfitter)

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves *most of the following*: Laying out work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe

required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.*

MILLWRIGHT

(6178: Millwright)

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves *most of the following*: Planning and laying out work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

MOTOR VEHICLE MECHANIC

(611: Vehicle and mobile equipment mechanic and repairer)

Repairs, rebuilds, or overhauls major assemblies of internal combustion automobiles, buses, trucks, or tractors of an establishment. Work involves most of the following: Diagnosing the source of trouble and determining the extent of repairs required; replacing worn or broken parts such as piston rings, bearings, or other engine parts; grinding and adjusting valves; rebuilding carburetors; overhauling transmissions; and repairing fuel injection, lighting, and ignition systems. In general, the work of the motor vehicle mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

This classification does not include mechanics who repair customers' vehicles or who only perform minor repair and tuneup of motor vehicles. It does, however, include fully qualified journeymen mechanics even though most of their time may be spent on minor repairs and tuneups.

GENERAL MAINTENANCE WORKER

(6179: Mechanic and repairer, not elsewhere classified)

Performs general maintenance and repair of building structures and their mechanical, electrical, or sanitary systems. May also perform general maintenance and repair of the establishment's machinery. Work requires a basic practical knowledge of several maintenance trades in order to perform most of the following: Keeping in good repair building woodwork; replacing electrical switches, fixtures, and motors; occasional painting or touching up of structure or equipment; repairing or replacing plumbing fixtures; and replacing broken window panes.

Excluded are positions requiring a formal apprenticeship or equivalent training in one or more crafts. Also excluded are workers participating in such a program.

MAINTENANCE TRADES HELPER

(863: Helper; mechanic and repairer)

(864: Helper; construction trades)

Assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade. In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

MACHINE-TOOL OPERATOR (TOOLROOM)

(6813: Machinist)

(731-2: Metalworking and plasticworking machine setup operator)

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and performing difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

For cross-industry wage study purposes, this classification does *not* include machine-tool operators (toolroom) employed in tool and die jobbing shops.

TOOL AND DIE MAKER

(6811: Tool and die maker)

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys; selecting appropriate materials, tools, and processes required to complete task; making necessary shop computations; setting up and operating various machine tools and related equipment; using various tool and die maker's handtools and precision measuring instruments; working to very close tolerances; heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts to prescribed tolerances and allowances. In general, the tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship or equivalent training and experience.

For cross-industry wage study purposes, this classification does *not* include tool and die makers who (1) are employed in tool and die jobbing shops or (2) produce forging dies (die sinkers).

STATIONARY ENGINEER

(6931: Stationary engineer)

Operates and maintains one or more systems which provide an establishment with such services as heat, air-conditioning (cool, humidify, dehumidify, filter, and circulate air), refrigeration, steam or high-temperature water, or electricity. Duties involve: Observing and interpreting readings on gauges, meters, and charts which register various aspects of the system's operation; adjusting controls to insure safe and efficient operation of the system and to meet demands for the service provided; recording in logs various aspects of the system's operation; keeping the engines, machinery, and equipment of the system in good working order. May direct and coordinate activities of other workers (not stationary engineers) in performing tasks directly related to operating and maintaining the system or systems.

The classification excludes head or chief engineers in establishments employing more than one engineer; workers required to be skilled in the repair of electronic control equipment; workers in establishments producing electricity, steam, or heated or cooled air primarily for sale; and boiler tenders.

Material Movement and Custodial

TRUCKDRIVER

(821: Motor vehicle operator)

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or workers between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. *Salesroute and over-the-road drivers are excluded.*

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

Truckdriver, light truck
(straight truck, under 1 1/2 tons, usually 4 wheels)
Truckdriver, medium truck
(straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels)
Truckdriver, heavy truck
(straight truck, over 4 tons, usually 10 wheels)
Truckdriver, tractor-trailer

SHIPPER AND RECEIVER

(4753: Traffic, shipping and receiving clerk)

Performs *clerical and physical* tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles; preparing and keeping records of goods shipped, e.g., manifests, bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; insuring that goods are appropriately identified for routing to departments within the establishment; preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:

Shipper
Receiver
Shipper and receiver

WAREHOUSEMAN

(4754: Stock and inventory clerk)

As directed, performs a *variety* of *warehousing* duties which require an *understanding of the establishment's storage plan*. Work involves *most of the following*: Verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages; routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of stored materials; examining stored materials and reporting deterioration and damage; removing material from storage and preparing it for shipment. May operate hand or power trucks in performing warehousing duties.

Exclude workers whose *primary* duties involve shipping and receiving work (see Shipper and receiver and Shipping packer), order filling (see Order filler), or operating power trucks (see Power-truck operator).

ORDER FILLER

(4754: Stock and inventory clerk)

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

SHIPPING PACKER

(8761: Hand packer and packager)

Prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers and *may involve one or more of the following*: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. *Packers who also make wooden boxes or crates are excluded.*

MATERIAL HANDLING LABORER

(8726: Freight, stock, and material mover, not elsewhere classified)

Performs physical tasks to transport or store materials or merchandise. Duties involve *one or more of the following:* Manually loading or unloading freight cars, trucks, or other transporting devices; unpacking, shelving, or placing items in proper storage locations; or transporting goods by handtruck, cart, or wheelbarrow.

Excluded from this definition are workers whose primary function involves:

a. Participating directly in the production of goods (e.g., moving items from one production station to another or placing them on or removing them from the production process);
b. Stocking merchandise for sale;
c. Counting or routing merchandise;
d. Operating a crane or heavy-duty motorized vehicle such as forklift or truck;
e. Loading and unloading ships (longshore workers); or
f. Traveling on trucks beyond the establishment's physical location to load or unload merchandise.

POWER-TRUCK OPERATOR

(8318: Industrial truck and tractor equipment operator)

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of powertruck, as follows:

Forklift operator
Power-truck operator (other than forklift)

GUARD

(5144: Guard and police, except public service)

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May also help visitors and customers by answering questions and giving directions.

Guards employed by establishments which provide protective services on a contract basis are included in this occupation.

For wage study purposes, guards are classified as follows:

Guard I

Carries out instructions primarily oriented toward insuring that emergencies and security violations are readily discovered and reported to appropriate authority. Intervenes directly only in situations which require minimal action to safeguard property or persons. Duties require minimal training. Commonly, the guard is not required to demonstrate physical fitness. May be armed, but generally is not required to demonstrate proficiency in the use of firearms or special weapons.

Guard II

Enforces regulations designed to prevent breaches of security. Exercises judgment and uses discretion in dealing with emergencies and security violations encountered. Determines whether first response should be to intervene directly (asking for assistance when deemed necessary and time allows), to keep situation under surveillance, or to report situation so that it can be handled by appropriate authority. Duties require specialized training in methods and techniques of protecting security areas. Commonly, the guard is required to demonstrate continuing physical fitness and proficiency with firearms or other special weapons.

JANITOR, PORTER, OR CLEANER

(5244: Janitor and cleaner)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve *a combination of the following*: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. *Workers who specialize in window washing are excluded.*

Area Wage Survey Summaries

The following areas are surveyed periodically under contract to the Employment Standards Administration of the U.S. Department of Labor for its use in administering the Service Contract Act of 1965. Reports on the surveys shown below are available at no cost from any of the Bureau's regional offices while supplies last.

Alaska (statewide)
Albany, GA
Albany-Schenectady-Troy, NY
Albuquerque, NM
Alexandria-Leesville, LA
Alpena-Standish-Tawas City, MI
Ann Arbor, MI
Asheville, NC
Atlantic City, NJ
Augusta, GA-SC
Austin, TX[1]
Bakersfield, CA
Baton Rouge, LA
Battle Creek, MI
Beaumont-Port Arthur and Lake Charles, TX-LA
Biloxi-Gulfport and Pascagoula-Moss Point, MS
Binghamton, NY
Birmingham, AL
Bloomington-Vincennes, IN
Bremerton-Shelton, WA
Brunswick, GA
Cedar Rapids, IA
Champaign-Urbana-Rantoul, IL[1]
Charleston, SC[1]
Chattanooga, TN-GA
Cheyenne, WY
Clarksville-Hopkinsville, TN-KY
Colorado Springs, CO
Columbia-Sumter, SC
Columbus, GA-AL
Columbus, MS
Connecticut (statewide)
Dayton-Springfield, OH
Daytona Beach, FL
Decatur, IL[1]
Des Moines, IA
Dothan, AL
Duluth-Superior, MN-WI
El Paso-Las Cruces-Alamogordo, TX-NM
Eugene-Springfield-Medford-Roseburg-Klamath Falls-Grants Pass, OR
Fayetteville, NC
Fort Lauderdale-Hollywood-Pompano Beach and West Palm Beach-Boca Raton-Delray Beach, FL
Fort Smith, AR-OK
Fort Wayne, IN
Gadsden and Anniston, AL
Goldsboro, NC
Grand Island-Hastings, NE
Green Bay, WI[2]
Greensboro-Winston-Salem-High Point, NC[2]
Greenville-Spartanburg, SC
Harrisburg-Lebanon-Carlisle, PA
Jacksonville, FL
Knoxville, TN
LaCrosse-Sparta, WI
Laredo, TX
Las Vegas-Tonopah, NV
Lexington-Fayette, KY
Lima, OH
Little Rock-North Little Rock, AR
Logansport-Peru, IN
Lorain-Elyria, OH
Lower Eastern Shore, MD-VA-DE
Macon, GA
Madison, WI
Maine (statewide)
Manhattan-Junction City, KS
Mansfield, OH
McAllen-Edinburg-Mission and Brownsville-Harlingen, TX
Melbourne-Titusville-Palm Bay, FL
Meridian, MS
Montana (statewide)
Montgomery, AL
Nashville, TN
New Bern-Jacksonville, NC
New Hampshire (statewide)
Norfolk-Virginia Beach-Newport News, VA
North Dakota (statewide)
Northern New York
Northwest Texas
Northwestern Florida
Oklahoma City, OK
Orlando, FL[1]
Oxnard-Ventura, CA
Peoria, IL
Pine Bluff, AR
Portsmouth-Chillicothe-Gallipolis, OH
Poughkeepsie-Orange County-Kingston, NY
Providence, RI
Pueblo, CO
Puerto Rico
Raleigh-Durham, NC
Reno, NV
Riverside-San Bernardino, CA[1]
Salina, KS
Salinas-Seaside-Monterey, CA
Sandusky, OH
Santa Barbara-Santa Maria-Lompoc, CA
Savannah, GA
Selma, AL
Sherman-Denison, TX
Southeastern Massachusetts
South Dakota (statewide)
Southwest Virginia
Spokane, WA
Springfield, IL
Stockton, CA
Tacoma, WA
Topeka, KS
Tucson-Douglas, AZ
Tulsa, OK
Upper Peninsula, MI
Vallejo-Fairfield-Napa, CA
Vermont (statewide)
Virgin Islands of the U.S.
Waco and Killeen-Temple, TX
Waterloo-Cedar Falls, IA
West Virginia (statewide)
Western Massachusetts
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An annual report on salaries for such jobs as accountants, auditors, public accountants, chief accountants, attorneys, programmers and systems analysts, job analysts, directors of personnel, buyers, chemists, engineers, engineering technicians, drafters, computer operators, and clerical employees is available. Order as BLS Bulletin 2290, *National Survey of Professional, Administrative, Technical, and Clerical Pay: Private Service Industries, March 1987* (Price $5), from: Bureau of Labor Statistics, Publications Sales Center, P.O. Box 2145, Chicago, IL 60690, or Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

[1] In 1988, this area is scheduled to be surveyed under the Bureau's regular area wage survey program. See inside back cover.

[2] Scheduled to be surveyed in this program for the first time in 1988. In 1986, the area was surveyed under the Bureau's regular area wage survey program. See inside back cover.

Employee Benefits in Medium and Large Firms, 1986

U.S. Department of Labor
Bureau of Labor Statistics
Bulletin 2281

The Bureau of Labor Statistics issues its 1986 bulletin on employee benefits in medium and large firms. This survey is the eighth in the series.

Data available

- Incidence and detailed characteristics of 14 private sector employee benefits paid for at least in part by the employer: Lunch and rest periods; holidays, vacations, and personal, funeral, jury-duty, military, and sick leave; sickness and accident, long-term disability, health, and life insurance; and private retirement/capital accumulation plans. The retirement data include defined benefit plans, such as benefit formulas and pension replacement rates, and defined contribution plans, such as salary reduction or 401 (k) plans.
- Incidence and provisions of flexible benefit plans and reimbursement accounts are included for the first time in 1986.

Coverage

- Major benefits in medium and large firms, nationwide.
- Minimum employment in establishments covered is generally 100 to 250 employees, depending on the industry.

Source of data

- Samples of about 1,500 establishments in a cross-section of the Nation's private industries; primarily by personal interview.

Uses

- Benefit administration in public and private employment.
- Union contract negotiations.
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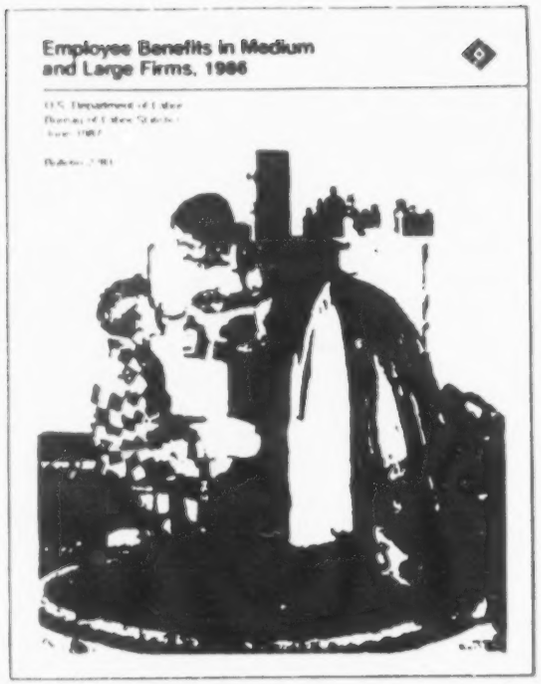

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